CHILDRENS FANTASY LEVEL AND THEIR CLASSROOM WAITING BEHAVIOR

by

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B.Ed. University of Victoria, 1971

A THESIS SUBMITTED IN PARTIAL FULFILLMENT

OF THE REQUIREMENTS FOR THE DEGREE OF

MASTER OF ARTS

in the Faculty

of

Education

ACCEPTED
FACULTY OF GRADUATE STUDIES
[redacted]
DEAN
DATE 30 Oct 81

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MAY 1981

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Abstract

Children are often expected to wait quietly without disturbing their peers in a classroom setting. This task seems to be more difficult for some than for others. Research has found that children who are high fantasizers tend to be less active while waiting than children who are low fantasizers.

The generalizability of these findings is questionable since most of the empirical research has been conducted in a clinical setting. The importance of the present study is that it examined the relationship between children's fantasy level and their waiting behavior in the classroom.

Twenty-eight Vancouver elementary school boys, between the ages 8 and 9 years, served as subjects for the study. A correlational design was used.

Fantasy level was determined by three separate indices: teacher ratings, an interview with the child and an analysis of a picture drawn by each child. There were also three separate measures of each child's waiting behavior: a teacher rating, an assessment based on an interview with the child, and direct observation.

There was no significant difference in the distribution contrasting each of the fantasy level indices with the teacher rating and interview based assessments of student waiting behavior.

The direct observation results were analyzed with analysis of variance. There was no significant result for student interview and picture rating indices of fantasy level. Teacher ratings of fantasy level was a significant factor in four of the ten categories of waiting behavior that were observed. The two extreme groups, high and low fantasizers, displayed significantly more controlled quiet behavior while waiting than did the moderate fantasy group.

Recommendations for future research and implications of the present study for teachers were discussed.

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Acknowledgements

I would like to acknowledge sincere appreciation to my committee, Don Knowles, Ron Tinney and Lex Milton, who gave their time and assistance.

I would also like to express my indebtedness to my colleagues and husband, Wayne, for their encouragement and support.

And to the twenty-eight children who are the subjects of the study, a very warm thank you.

Chapter I

Statement of the Problem

Children in a classroom setting are required to sit quietly for long periods of time (Fleming, 1973; Brandt, 1972). According to Jackson (1968), patience is the single best trait required for classroom survival. He says, "Part of learning how to live in school involves learing to give up desire as well as how to wait for its fulfillment" (p. 15).

From my own classroom experiences I know that children are often expected to wait at their desks when their task is completed while others finish work, or the teacher prepares the next activity. Many teachers find this to be a difficult time to manage some students since waiting often results in disruptive behavior. To alleviate problems some teachers have created activity corners which are quiet and accessible for the children to enjoy while waiting. Unfortunately, activity corners are not always convenient since some waiting periods are too short to make the effort involved worthwhile.

Consequently, children are often expected to sit at their desks and occupy themselves for a few minutes each day without disturbing their peers. For some children this appears to be a more difficult

task than for others. From personal experience, observation, and interviews with teachers, it has been noted that children's waiting behavior varies from quiet passive activities, such as gazing, doodling or daydreaming, to more boisterous ones such as poking, talking, throwing and wiggling.

The research suggests that some children have more self control, or specifically, are better able to control their motor activity than others when they have certain cognitive skills (Ekstein & Friedman, 1966; Meichenbaum, 1977, Meichenbaum & Goodman, 1971; Schure et al., 1971; Spivack & Schure, 1974; Fagen et al., 1975; Kreitler & Kreitler, 1976).

Some theory and research on fantasy and imaginative predisposition support the conclusion that many highly imaginative children tend to possess the cognitive skills associated with motor control (Houston, 1979; Singer & Antrobus, 1972; Smilansky, 1968). Furthermore, fantasy measured by Rorschach testing has been directly linked with motor control (Rorschach, 1942; Singer & Herman, 1954; Singer et al., 1952; Singer & Spohn, 1954).

Consequently, there is growing belief that a positive correlation exists between fantasy level and the control of motor activity (Biblow, 1973; Saltz et al., 1977; Saltz & Johnson, 1973; Singer, 1961; Singer et al., 1956; Smilansky, 1968; Mischel & Baker, 1975; Pytkowicz et al., 1967). Given a situation where a child is required to control motor activity, such as waiting, in light of the above findings, one would expect that children

who show considerable fantasy skill will also demonstrate good motor control. The purpose of the present study was to examine the relationship between fantasy level and motor control in a classroom waiting situation.

Chapter II

Review of the Literature

Fantasy has been a topic of interest for many years. As early as Shakespeare's time people have been entertained by the mysteries of the fantasy world. Children's fantasy, however, has been viewed with caution, as reported by Griffiths (1945): "At best these tendencies (to fantasy play) have been tolerated as harmless amusements, at worst they have been regarded as dangerous, unhealthy, or a waste of time" (p. 6).

It would appear that today's attitudes are more accepting. In a small study by Brooks (1979) parents were found to be neutral or have no major concerns about their children's imaginary friends. Singer (1973), in his many studies, has found parents and teachers beginning to encourage and develop fantasy in children as a tool for personal growth.

Increased interest in children's fantasy has stimulated new research that covers a broad spectrum such as play, mental imagery, inner thought, cognitive skills, imagination, daydreaming and creativity. One author, Klinger (1971), has written an entire book of esoteric thoughts in an attempt to define fantasy. For

the purpose of this study, however, fantasy will mean children's imagination as it is manifested in their daily school work and play in the form of make believe and divergent expression. Specifically, a child who regularly uses or refers to make believe and generally diverges from traditional structured forms in school work and play would be considered a high fantasizer.

Fantasy Theories

There are many theories to explain the source of fantasy thoughts and play. Only a brief summary will be presented here since it is not the nature of this study to examine extensively the history of fantasy.

Spencer, as reported by Singer (1973), theorized that play was the result of excess energy. That is, children had to wear away their energy until they grew tired. No empirical evidence, however, has totally supported this theory.

Groos (1901), by observing his own children and animals at play, concluded that make-believe play was an instinctive process from which the young practise and rehearse for adulthood. More current studies would now suggest that play is not just instinctive, and in fact, needs to be encouraged, modeled and sometimes taught (Feitelson & Ross, 1963; Freyberg, 1973; Gottlieb, 1973; Griffing, 1974; Smilansky, 1968; Strom, 1974).

A rather basic attitude about fantasy play was the recapitulation theory by Hall (1906). It was his belief that a cyclic

development occured in humans that created primitive behaviors such as play. These behaviors were experienced then discarded by adulthood so that realities of life could settle in. This concept of fantasy play has little support in the light of current theory that suggests that persons who are highly involved in fantasy are more aware of reality than those who have limited fantasy (Saltz et al., 1977; Singer, 1973; Smilansky, 1968).

Freud, in the early 1900's, with his drive reduction theory, stimulated a new interest in fantasy and play. He claimed that fantasy or thought was a result of an unfulfilled need. A child could imagine what she or he wanted when it was not readily available. Play, too, was viewed as a way to resolve problems and recreate anxiety situations so they could be reviewed and overcome. Freud's idea was that fantasy play would release energy or emotion resulting in reduced pressure (Freud, 1966).

This cathartic view of fantasy found some support (Griffith, 1945; Feshbach, 1955; Lorenz, 1966), but was generally refuted by many researchers (Berkowitz & Raulings, 1963; Klinger, 1971; Singer & Antrobus, 1972; Singer & Rowe, 1962; Skolnick, 1966).

Piaget (1932) viewed fantasy play as a part of the child's natural development to assimilate and integrate new information until it had some valuable meaning. Piaget believed that eventually the play would disappear until the process would only be manifested in the imagination or thought of the child.

Current researchers on fantasy play concur with Piaget's assimilation theory but have developed this concept further into what may be labelled as a "trait" theory (Singer, 1977; Singer & Antrobus, 1972; Smilansky, 1968). It is their belief that fantasy is a basic personality function that is developed by parental attitudes, environment and/or formal training. Both Smilansky and Singer value fantasy as a facilitator to the growth of cognitive, social and behavioral skills. It is this relationship between fantasy and behavior that I wish to explore.

As previously mentioned, some research supports the conclusion that children appear to need certain cognitive skills before they can successfully control their own behavior. Other research has found that children who are high fantasizers appear to possess many of the same cognitive skills required for behavior control. Consequently, a three way link appears to be emerging between behavior control, cognitive skills, and fantasy. That is to say that certain cognitive skills appear to be associated with both behavior and fantasizing. I will attempt to describe first, the relationship between the cognitive skills and behavior control, next the cognitive skills and fantasy and finally the resulting assumption of a relationship between fantasy and behavior control.

Cognitive Skills and Behavior Control

In their psychoanalysis of a neurotic boy, Ekstein and Friedman (1966) found that acting out was a substitute for recollection and

that thinking was the skill required to replace action. In other words, a child needs to rely on cognitive skills when faced with an issue or problem or else she or he will respond in an impulsive motor manner.

In a study by Shure, Spivack, and Jaeger (1971) four year olds enrolled in head start programs were measured for problem solving skills in relation to their behavioral adjustment in the classroom. It was found that those children with behavioral problems, as rated by their teachers, were lacking cognitive skills such as conceptualizing solutions, anticipating consequences, or thinking of causes to a problem. These researchers suggest that:

> The individual who can choose from a variety of alternative solutions may be more likely to succeed in getting what he wants and be less likely to suffer the frustration of repeated failure and the consequences of possible subsequent maladaptive behavior (p. 1802).

Like Ekstein & Friedman, Shure, et al., found a relationship between cognitive skills and behavior control.

Meichenbaum (1977), and Meichenbaum & Goodman (1971), conducted similar studies with impulsive children who were having school behavior problems. They hypothesized that impulsive children needed to learn to conceptualize or think through problems and develop more directed private speech before they could practice self-control. After one month of Meichenbaum's cognitive training, a technique of talking through problems to oneself, improvement in behavior control was evident. Meichenbaum felt that these cognitive skills

were a prerequisite to behavior control.

In another extensive cognitive training program, Fagen et al. (1975), taught impulsive children self-control resulting in improved behavior. He summarized the skills required for self-control as the following:

1. Selection - ability to preceive incoming information accurately
2. Storage - ability to retain the information received
3. Sequencing and ordering - ability to organize action on the basis of a planned order
4. Anticipating consequences - ability to relate actions to expected outcomes
5. Appreciating feelings - ability to identify and constructively use affective experience
6. Managing frustration - ability to cope with external obstacles that produce stress
7. Inhibition and delay - ability to postpone or restrain action tendencies
8. Relaxation - ability to reduce internal tension (p. 38).

These skills are similar to the conclusions by both Shure, et al. and Meichenbaum about the need of certain cognitive skills before behavioral control can be achieved.

Further support of the assumption of cognitive training for behavioral control was found by Kreitler & Kreitler (1976). They stated that:

> The core of this theory (cognitive orientation) is the already well-substantiated hypothesis that the cognitive system, and in particular the orientative aspect of cognitive contents as well as their various forms of interplay, determined the direction of human molar behavior (p. V).

They found in their studies, as Fagen did, that children who did not have certain thinking and planning skills had poor self-control.

Finally, Spivack & Shure (1974) worked in the classroom with elementary children and found that those children who could only see the desired goal and not cognitively anticipate outcomes or alternatives tended to be impulsive. Furthermore, they found it necessary to train these children to think by using a kind of cognitive guided fantasy. They explained:

> Our background research indicates that with young children a significant element in problem solving is the ability to imagine alternative solutions (p. 124).

To summarize these studies, children who lack the ability to conceptualize, anticipate, select, and store information or just generally don't think before they act are likely to have self-control problems. These skills, however, have been successfully taught resulting in better control of overt behavior.

Cognitive Skills and Fantasy

There is a belief, as cited in the introduction, that fantasy is a learning process that enhances or teaches the cognitive skills that are associated with delaying and restraining motor activity.

One study that would support this view is Smilansky's (1968). As a result of her extensive observations of play and its relation to school success she taught underprivileged children from Israel sociodramatic play. She found:

> "... great similarity between patterns of behavior that advance the successful preparation of children in sociodramatic play and patterns of behavior necessary for successful integration into the school situation or full cooperation in the school game" (p. 12).

As a result of her studies she concluded that sociodramatic play developed creativity, more appropriate social behavior, and cognitive skills such as conceptualizing and anticipating outcomes.

Singer & Antrobus (1972) identified similar traits with fantasy as Smilansky in their study with college students. They summarized their findings by saying:

> "... imagery and fantasy are perhaps best regarded as fundamental human capacities or cognitive skills that can reflect serious pathology or distress but that can also be employed as valuable tools for self-gratification, planning or creative activity ..." (p. 201).

In her extensive studies on the right hemisphere of the brain, Houston (1979) has found ways to retrieve stored information and enhance cognitive development through fantasy experiences. Although her work has not been directly related to behavior control she does associate cognition and fantasy with behavior changes.

It seems apparent, from the limited available research on fantasy characteristics, that fantasy is at least identified with some basic skills such as cognitive processing, planning, storing

and retrieving information, anticipating outcomes and generally thinking through problems. Many of these skills are the same or similar to those skills identified earlier that are required for motor control - hence the development of studies linking fantasy with motor or behavior control.

Fantasy and Behavior Control

Rorschach (1942) was possibly one of the first to actually claim to find a relationship between fantasy and behavior control. Through his inkblot response studies he found that persons who identified humans in action (M) were relatively inhibited in motor activity and at the same time creative and imaginative. Rorschach explained:

> "... the factors which are essentially 'inner' or self-determined and are expressed primarily in sensations of motion in the test, are in some way opposed to physical mobility, the actual execution of motion. ... Dreams are 'inner' for self-determined productions and kinaesthesias play an important role in them. On awakening, necessary movements, physical motions, begins at once. This movement sets the dreams aside. There is however, a way to recall dreams; be perfectly motionless on awakening in order not to cover up the kinaesthesias of the dream by present physical movement" (p. 72).

Rorschach developed the idea that a person who could daydream or fantasize would in fact by the nature of the act inhibit motion, which resulted in a positive correlation between fantasy and behavior control.

Some data are available to support Rorschach's (M) and motor control relationship (Singer et al., 1952; Singer & Spohn, 1954)

but little is available that includes the third factor, imaginativeness.

Singer & Herman (1954) did test the three way relationship. Sixty male schizophrenic patients were tested for motor control during a waiting period and transcendence in Thematic Apperception Test (TAT) stories in relation to M scores. The result showed a significant relationship between high-M, motor control, and TAT transcendence, thus, supporting Rorschach's theory. Singer (1961b) summarized Rorschach's work by saying:

> It appears that to some extent the tendency to deal on a fantasy level with conflicts or frustrated wishes serves as a temporary experimental action discharging small quantities of energy in a controlled and potentially protective manner (p. 241).

One attempt that was made to link together fantasy and motor inhibition along with planning ability and delaying capacity was not totally successful (Singer, Wilensky & McCraven, 1956). One hundred male veteran patients were studied by using Rorschach's M score, Barrons Movement-Threshold, and fantasy testing. Although the result supported a relationship between motor delay and fantasy level, the correlations were positive with one group and negative with another. That is to say one high fantasy level group was able to control mobility while the other high fantasy group was not. Singer, et al. concluded that the latter group was too withdrawn and into a world of fantasy to be aware of their overt behavior. They felt that a more normal population would better support their hypothesis.

Pytkowicz, et al. (1967) correlated daydreaming skills with aggression. They found that the frequent daydreamers were able to

utilize fantasy to reduce aggression better than infrequent daydreamers.

Biblow (1963) studied the effects of television on children with different levels of fantasy. One of the observations he made during the study was that:

> The low-fantasy child, as observed during play, presented himself as more motorically oriented, revealing much action and little thought in play activities. The high fantasy child in contrast was more highly structured and creative and tended to be verbally rather than physically aggressive (p. 128).

Saltz & Johnson (1973) made similar observations when they were measuring effects of teaching fantasy play to socially and economically deprived preschoolers. Not only did they find an increased I.Q. when children were trained in thematic fantasy but they also found improvement in empathy and general interpersonal skills.

Imaginal ideas, as opposed to realistic ideas, were found by Mischel & Baker (1975) to increase delay. They worked with 60 nursery school children and were able to increase their waiting time by training them to use fantasy thoughts.

In 1961, Singer conducted a study with 40 children to test for a relationship between fantasy levels and waiting behavior. The results supported his hypothesis that high fantasizers would demonstrate more motor delay than low fantasizers. Singer felt that the high fantasizer was able to rely on his or her imaginative ability to pass the time rather than resort to motor tendencies.

As reported earlier, Smilansky (1968) trained Israeli children in sociodramatic play. She found a strong indication that increased fantasy skills resulted in improved motor control in the classroom.

This finding further supports the theory of a relationship between fantasy and motor control.

In a more recent study Saltz, Dixon & Johnson (1977) found that formally training in thematic-fantasy play improved children's behavior in several ways. They stated that:

> "... the data show that training in thematic-fantasy play led to increases in intellectual performance, ... increased ability to distinguish reality from fantasy ... increased ability to delay impulsive behavior under specified conditions; and increased ability to empathize with other children ..." (p. 378).

This study not only supports the relationship between fantasy and behavior control but also gives further support to the previous research that found a correlation between fantasy and cognitive skills.

In summary, it would appear that fantasy is not just a drive reduction tool or a rehearsal for adulthood, but is possibly a learned cognitive skill that is an integral part of the developmental process. The research suggests that children who have fantasy skills appear to demonstrate considerable control of their motor behavior. Specifically, these high fantasizers are more likely to manifest directed, productive motor behaviors, and generally delay activity longer when required than their less fantasy-oriented peers.

Question or Hypothesis

Singer (1977) summarized his years of work on fantasy by stating:

> "... children who either by predisposition or with the help of training show a considerable amount of make-believe in their spontaneous play are also likely to have advantages over others of equal intelligence (1) in the flexibility and variability of their use of language, (2) in their imagery skills and their capacity for producing transformation, (3) in the accuracy of their perception of absurdity or their recall of details from narrated materials, and (4) also in their general orientation: they demonstrate more positive affective states, greater self-restraint and less aggressive or disruptive behavior, more social cooperation and generally what looks like a better preparation for the necessary constraints for the classroom" (p. 136).

It is the fourth statement to which this study will be addressed.

As documented in the review of literature, most of the current research in fantasy has been done by Singer or based on his studies. Although the majority of his work has been done in clinical settings he is now beginning to generalize to the classroom. I believe that it is important to ask whether or not his theories can in fact be supported beyond the clinic and into the classroom. If Singer is at all correct in his statement that high fantasizers demonstrate "better preparation for the necessary constraints of the classroom" (p. 136) then many important implications could be considered in the future regarding fantasy work and classroom behavior.

In the present study, one specific question was asked: "Do children who are high fantasizers demonstrate inhibition of motor

activity while waiting in the classroom?"

Based on the review of literature it was hypothesized that:

1. More high-fantasizers than low-fantasizers have appropriate classroom waiting behavior as rated by their teachers.
2. More high-fantasizers will rate themselves as less active "waiters" in school than low-fantasizers, as measured by a self-report rating scale.
3. High-fantasizers spend the most time in controlled quiet activities and, conversely, the least time in more active-oriented motor activities while waiting in a classroom, as measured by direct observation.

Chapter III

Method

Pilot Study

A pilot study was conducted in June 1979 to select subjects and measures, and identify waiting behaviors.

Six Kindergarten boys were used since they were most accessible at the time and they fit the initial age (6) recommended by Singer for fantasy studies (1973).

A variety of problems occurred during the pilot that helped determine the direction and tools for the eventual study. To develop a waiting behavior measure, two observers were asked to record all behavior of a child during a three-minute waiting period following work completion. This proved unsuccessful since the children of this class were allowed to play in a corner when they finished their work which was not a true indication of how they waited at their seats. For the second observation the teacher was asked to keep the children at their desks. Again this proved unsuccessful. Since the teacher told the children she would mark their work before they could go to the play corner, they became impatient and focused only on the teacher's marking. It was decided that specific wording was needed for the teacher to keep the children waiting naturally at

their seats. For the third observation the teacher said, "Please wait at your desks when you're finished and find something quiet to do." This time the observers were able to record waiting behaviors which were later used as the basis of the Waiting Behavior Observation Scale.

Four methods for measuring fantasy were tried: an interview, two picture tests, and a teacher rating scale. The first, the interview, questioned the children about their fantasy. However, the answers were seldom more than a yes, no, or a shrug even when prompted. Consequently, two decisions were made. One, to try interviewing older children; two, spend more time getting to know the children prior to interviewing.

The second two fantasy measures were picture tests. One proved to be too complicated to mark which resulted in eliminating it from the study. The other elicited very similar pictures from the children. Consequently a decision was made to keep the children well separated while drawing.

The fourth fantasy measure was a teacher rating scale for fantasy predisposition. It was found satisfactory to the teacher and me.

As a result of the pilot study I decided to work with children older than Kindergarten age and to spend considerable time with them prior to conducting the study. I also made some decisions about which measurement tools to use.

Subjects

Thirty boys from Weir Elementary School in Vancouver were chosen as subjects for the study. This group consisted of the entire Grade 2 and 3 male population of Weir School: four Grade 2 boys from a Kindergarten-2 split class, eleven Grade 2 boys from a straight Grade 2 class and fifteen Grade 3 boys from a regular Grade 3 class.

One boy was eliminated from the study due to severe learning problems and consequent parent reluctance to have him tested or observed. Another transferred from the school during the data collection period. His scores were not used. Consequently, the final number of subjects involved in the study was 28.

All boys ranged between the ages of 8 - 9. This level was chosen as a result of the literature which suggests children of ages 6 - 9 are most likely to express their fantasy (Singer, 1955), and my negative experience with six year olds during the pilot study. Boys were chosen since the research also seems to suggest that boys are less inhibited in motor activity which facilitated clearer measures for motor measurement (Brodzinsky et al., 1979; Brophy & Good, 1974; Pulaski, 1973; Singer, 1977).

Teachers and principal concurred that all children were from working class parents of middle to low income. They lived in single dwelling homes in a middle-class residential East Vancouver area.

A notable characteristic of the study was the varied ethnic backgrounds: 8 Chinese, 2 Portugese, 2 Filipino, 2 Japanese, 1 Greek, 2 Yugoslavian, 1 Italian, and 10 English Canadian. (The criteria used to label a child "English Canadian" was English being the sole language in the home.)

Since Vancouver has 50% English as a second language (ESL) school population, it was impossible to control this factor without tremendous difficulty, expense and inconvenience. However, Vancouver does have special ESL classes and centres available for children with English problems and not one of these subjects was enrolled in such a class. Consequently it was assumed that each child had a good enough understanding of English to participate in the study. This district and school were chosen for its convenience and support of the study.

To ensure that the subjects' ethnic background was not a factor influencing their behavior, as has been noted in some of the literature (Berndt, 1978; Briggs, 1978; Denton, 1978; Draper, 1978; Sorenson, 1978; Whiting & Whiting, 1975), an Analysis of Variance was performed on the data. The subjects were divided into three groups, English, Oriental and Other. Each group was analyzed with the Behavior ratings. No significant difference was found in the behavior between the three groups.

Since all children of this school are given the Gates MacGinitie Reading test at the beginning of their second year of school, these scores were used as an indication of intellectual functioning. The results indicated that all children were reading either slightly below (5 students), slightly above (7 students), or right at the

Year 2 level (16 students). In general, the subjects were all of an average functioning level.

The subjects were generally unaware of the specific study being conducted. In the beginning I spoke to each class, girls included, and told them I wanted to study children in Grade 2 and 3. They all agreed to be a part of the study. When tape recorders were used I asked their permission. When the video camera was used behind the one-way glass I did not tell the students so as not to influence their behavior. However, following all the video taping I let them observe themselves and I asked for permission to use the tape. They all agreed. Written permission was obtained from the Vancouver School Board and each child's parents to use them as subjects for my study (see Appendix I).

Design

The study was a correlational design with interval and ordinal data. Due to the nature of the data and statistical limitations it was necessary to group the information in two different ways.

First, scores on the three fantasy factors, Teacher Rate, Student Interview and Picture Rate, were rated as low, medium or high and correlated with the observed waiting behavior as recorded in number of seconds.

Then the scores on the three fantasy factors and two behavior variables, Teacher Rate and Student Interview, were collapsed and divided into Median splits (above and below the mean), then correlated using a nonparametric analysis.

Instruments

Six measures were chosen: three to establish each child's fantasy level and three to establish each child's motor activity level while waiting in school. All measures were rated on five-point scales (0 - 4). The 0 indicated low levels of fantasy or motor activity and the 4, high levels of fantasy or motor activity.

The first fantasy measure was Singer's interview which consisted of four questions about children's involvement in fantasy (1969) (see Appendix II). Two questions established a child's game preference; i.e., games with rules and mastery or games with little structure and possible make-believe aspects. The other two questions enquired about a child's imaginary thoughts and possible make-believe companions. A point is given for each answer that was of a symbolic or make-believe nature. The points were then totalled which resulted in a score of 0 - 4. These questions were found valid and reliable by Singer (1973).

The second fantasy measure was a teacher rating scale, also established and validated by Singer (1973) (see Appendix III). The form consisted of five statements regarding fantasy content in a child's classroom activities. Each teacher was asked to rate students on the 0 - 4 scale according to the teacher's observations. For instance, if a teacher felt that the child seldom introduced pretend elements into his work or play, the child would be rated 0. However, if the teacher observed the child frequently involved in pretend and able to go well beyond the suggested stimuli, the rating would

be 4. Various degrees of pretending would be rated with 1, 2 or 3 as noted on the scale. To test the reliability of the scores, the teachers first rated children not in the study and re-rated them a week later. Their scores were the same in every case.

The third fantasy measure rated fantasy content in drawings (see Appendix IV). This scale was originally established and found valid and reliable by Pulaski (1973). Each child's drawing was given a rating 0 - 4 according to fantasy content measured by the scale. A drawing displaying only a child's experience, such as a dog and horse, would be rated as 0. At the other end of the scale, a drawing with make-believe characters or magical components would be rated 4. Judges rated the pictures independently. When a score discrepancy occurred, another judge was asked to rate the picture. Discussion followed until all three judges agreed on a score.

The three instruments used to measure motor activity while waiting were developed for the present study. Validity was established for all scales by having three teachers assess each form. Reliability was established for each form by a test/retest system with five students not used in the study.

The first measure of waiting behavior was an interview (see Appendix V). A form consisting of three open ended questions was used to establish the child's own perception of his waiting behavior. Specific questions could be asked if the child was unable to give an answer. Each answer was rated on a scale of 0 - 4 as measured on the scale and the three answers were averaged to give the 0 - 4 rate of the child's waiting behavior.

The second waiting behavior measure was a teacher rating scale (see Appendix VI). Teachers rated each boy on the scale according to observable classroom waiting behavior. That is, a child who would generally demonstrate very passive inactive waiting behavior would rate a 0 or 1 while another child with much more active boisterous waiting behavior would be rated as a 3 or 4. Although this scale was somewhat subjective the teachers all commented that each student fell easily into one of the categories.

The final measurement tool was an observation scale that rated a child's motor activity while waiting for a period to end (see Appendix VIII). A three minute waiting sample of classroom behavior was video taped following a pleasant art activity where the child was allowed to draw whatever he liked. The tape was viewed by two judges who recorded the number of seconds each child was engaged in a behavior.

Procedure

A period of five months, November to March was taken to prepare the instruments and collect data for the study.

In November the three fantasy measures, previously established by Singer and Pulaski, were used with students not included in the study, to ensure their appropriateness. It was found that the art work measure needed one change. When asked to draw, children were asked by Pulaski to draw, "Whatever you like to think about." This wording did not seem to elicit enough of a fantasy response from

my subjects. After trying a variety of wordings I settled on a story about flying on a magic carpet and asked the children to "draw a picture of another land where your magic carpet takes you."

The wording in Singer's Teacher's Fantasy Rating Scale was also changed slightly at the request of the three teachers who tried using the scale. Instead of referring to the student's "play", I used the term "school work" to facilitate a more general assessment as observed by the teachers.

Singer's interview was found appropriate exactly as he used it.

At the same time the behavior measures were used with students outside the study and assessed by three teachers until appropriate forms were agreed upon.

During December, I worked on familiarizing the students with me and my work area. Although I worked in Weir School, I was in a Diagnostic Centre that was a separate facility from the rest of the school. To reduce the possibility that the children would view me as someone special when I was collecting data, I spent several sessions in their classrooms giving Art lessons. I told them that I was studying Grade 2 and 3 students to find out what they like to do and think about. Since I wanted to use the Centre for observing and interviewing, I invited the children into our Centre so they would become comfortable and familiar with the surroundings. Generally I established a friendly casual relationship with the subjects prior to the actual data collection period.

Early in January, the teachers were asked to rate their students' fantasy according to the Teacher Fantasy Rating Scale. They were asked to consider their students in a general sense and not just base their scores on some single piece of Art work.

At the same time, the Picture Fantasy scores were collected by me. Working in the same school as my subjects, it was easy to choose a day when everyone was present. Since only four Grade 2 boys were a part of my study in one classroom, I invited them to join the room with the rest of the Grade 2 students. This was partly for my own convenience and partly because their own class consisted of Kindergarten and Grade 1 students which I felt would force me to present my lesson differently than the other classes. The four boys were quite comfortable and familiar with the full Grade 2 class.

I then talked with the entire class, girls included, giving them a story about flying away on a magic carpet to some new land. The words, "draw me a picture of the new land that you are taken to on your magic carpet," were used to elicit the picture.

As the children finished I went to each one and asked them to tell me about their picture. This was done to be sure of the picture content and to establish whether or not the ideas were imaginative or copied from T.V. The same procedure was followed for the Grade 2 and 3 classrooms.

In late January I interviewed the subjects according to Singer's fantasy interview. Each child was invited individually into the Diagnostic Centre where a sound-proof room was used to ensure

complete privacy. A few minutes were spent chatting casually at first to relax the subject. I then said that I wanted to ask a few questions about their imagination and asked if the tape recorder could be used. Each child was asked the same four questions with some prompting if only an ambiguous answer, or yes or no was given.

The first question, "What is your favorite game?" was usually answered readily by each child. However if no response was given, further prompting such as, "If you could play whatever you wanted, what would you do?" or "What do you like to play the most?" was done until some answer was given. An answer such as "cowboys and Indians" would rate a point while checkers would score zero.

The second question, "What game do you like to play best when you're alone?" often got "T.V." as an answer. Since this was not viewed as a game, I would prompt the child with, "Do you ever think things up?" or "What if your T.V. was broken, what would you do?" if the subject insisted that T.V. was his only activity, I would accept it and rate it as a zero. A point response would be an answer such as "play house," "build with Lego," or any other potentially make-believe activity.

Question three, "Do you ever have pictures in your head?" appeared more difficult for the children to answer. They would often need a second question, "Do you ever see make-believe things or pictures in your mind and think about them?" I would always ask the subject to elaborate beyond "yes" and "no." When given "yes," I would ask the child to explain further. When given "no"

I would say, "Do you have an animal or toy or make-believe person you talk to or take places with you?" Again, an answer that had make-believe elements would be given a point while no make-believe would be given zero.

In February, the teachers were given the Waiting Behavior scale. They were asked to rate each child according to the five behavioral descriptions. It was suggested that they observe each child waiting in a variety of classroom settings to determine an accurate score.

During the same month I interviewed each subject to establish his own opinions of his waiting. Again I invited each child into the sound proof room and chatted casually with them. Three questions were then asked about their waiting habits. At first I would ask the question in an open-ended manner ... "If you are standing in line waiting to enter the gym and your teacher has to go to the office to get the key, what would you do?" If the child gave an answer such as, "I would talk to my friends," or "I would just stand quietly" or "I would fool around," I would go onto the next question. However, if the child said something such as "I don't know" or "nothing," I would say, "Just imagine that you are in line - would you be very quiet and still, or maybe chat with someone or fool around a little, or maybe really have fun with someone and poke and tease and stuff like that?" Once I gave those choices each child was always able to give a response. I proceeded in the same manner with the other two questions, first giving an open-ended question and then if necessary giving alternate choices.

Finally, in March the waiting behavior observation was done. Groups of five, chosen at random, were invited into the Centre. They were asked to sit where they liked at the table. I spoke briefly to each new group telling them that I was continuing my studies of their work and behavior and that today I would like them to draw me a picture of anything they liked. These pictures were not used for the study. Drawing a picture of their choice was intended to be a non-threatening activity that would not stimulate any unusual behavior.

On a separate table were a box, books and extra papers. I specifically said,

> When you are finished please put your papers in this box. If you like you may then help yourself to more paper or a book and return to your seat. I do not mind what you do at your seat as long as you do not disturb anyone else. Just do exactly what you would do in your classroom when you are waiting for others to finish their work.

I stayed in the classroom at a desk in the corner and worked on papers. When everyone was finished I ignored them completely and continued to work for another three minutes. This was done to ensure that every child had at least three minutes of waiting time. If someone told me they were all finished, I would say, "I am just finishing a few things, please sit and wait until I speak to you." When the three minutes were over I would go to the table and chat with the children casually, thank them for their pictures and dismiss them. During all this time an independent observer had been video taping the children through a one-way glass. Later, when rating the behavior, only the first three minutes of each child's waiting was scored.

All taping was done on the same day by the same person following the same activity. The children were unaware of the camera although they had been told that they would always be watched by someone.

After all the taping was completed the children were shown the tapes and asked for their permission to use them. The teachers were also asked to view the tapes for their opinions. They felt the behaviors demonstrated were typical of the daily class situation, except for three students.

Following data collection, a Pearson Correlation analysis was done on the data to determine whether or not the three fantasy instruments and three behavior instruments were measuring the same thing. Significant correlations were found between teacher fantasy rating and fantasy interview $r = .43$ $p \leq .05$; teacher fantasy rating and fantasy picture $r = .45$ $p \leq .01$; fantasy interview and fantasy picture $r = .45$ $p \leq .01$; teacher behavior rating and observation $r = .62$ $p \leq .001$; behavior interview and observation $r = .49$ $p \leq .01$. Teacher rating of behavior and the behavior interview were the only measures that did not significantly correlate.

I promised to make available to the teachers the complete thesis for their examination.

Chapter IV

Results

The first analyses performed involved looking at differences between high and low fantasizers in both student reported waiting behavior and teacher rated waiting behavior which tested the first two hypothesis that stated more high fantasizers than low fantasizers would have appropriate waiting behavior as measured by the children and the teachers. Because these data were ordinal in nature, Chi-squares were chosen to analyze the results.

There were three operational definitions of fantasy-teacher rating, student interview and picture rating. An analysis using each definition for both student-reported waiting and teacher rated-waiting behavior resulted in six different analyses.

Although the original fantasy and behavior scales were rated on five levels it was necessary to collapse the data into two levels due to small numbers. Consequently, median splits were done on all five measures so that 2 x 2 Chi-squares could be performed. Even then the expected frequencies in many cells were small enough to require the Yates correction to be applied.

No significance was found for any of the six Chi-square analyses which provided no support for either of the first two hypothesis. Results are shown in Tables 1 and 2.

Table 1

Chi-square Results of 28 Students for Activity Level Determined by the Waiting Behavior Interview and Fantasy Level Determined by Teacher Ratings, Student Interview and Picture Ratings

Activity level	Fantasy level			x^2 (df = 1)
	High	Low	Total	
	Teacher-rated fantasy level			
More active	14	6	20	
Less active	3	5	8	1.35 (NS)
Total	17	11	28	
	Interview-determined fantasy level			
More active	7	13	20	
Less active	5	3	8	.81 (NS)
Total	12	16	28	
	Picture-rated fantasy level			
More active	9	11	20	
Less active	5	3	8	.18 (NS)
Total	14	14	28	

Table 2

Chi-square Results of 28 Students for Activity Level Determined by the Teacher Ratings, and Fantasy Level Determined by Teacher Ratings, Student Interview and Picture Ratings

Activity level	Fantasy level			x^2 (df = 1)
	High	Low	Total	
	Teacher-rated fantasy level			
More active	11	7	18	
Less active	6	4	10	.13 (NS)
Total	17	11	28	
	Interview-determined fantasy level			
More active	9	9	18	
Less active	3	7	10	.4 (NS)
Total	12	16	28	
	Picture-rated fantasy level			
More active	11	7	18	
Less active	3	7	10	1.4 (NS)
Total	14	14	28	

The other analyses performed were three one-way analysis of variance which tested the third hypothesis that stated high fantasizers would spend the most time in controlled activities and the least time in motor activities while waiting in the classroom. The three fantasy factors, analyzed separately, were Teacher rating of fantasy (low, Medium and high), Student fantasy interview (low, medium and high) and Picture rating (low, medium and high). The variate for each analysis was the combined passive behavior score which was the sum of the number of seconds spent in drawing, gazing, sleeping, talking and/or playing quietly during the waiting time, the combined active behavior score, which is the sum of the time spent talking, walking, fidgeting, tossing and moving restlessly, is the inverse of the combined passive score. For this reason, statistical results true for the combined passive score will also be true for the combined active score. Only the combined passive score is therefore analyzed. Means, Standard Deviations and Analysis of Variance results are shown in Tables 3 - 8.

One can verify through these tables that the combined passivity and activity mean scores add up to 180 seconds. Analysis of the Student fantasy interview and Picture rating produced non-significant results; teacher rating of fantasy was a significant factor providing some support for the third hypothesis.

Tukey's test was carried out on the Teacher Rating data to determine group differences. With α set at .05 the two extreme groups spent significantly more time in controlled quiet activities than did the middle group. The two extreme groups did not significantly differ from one another. Conversely, the two extreme groups

Table 3

Means and Standard Deviations of the Student Interview Fantasy Groups for the Variable Combined Passive Behavior

	Low fantasy group	Medium fantasy group	High fantasy group
Mean No. of Seconds	124.56	124.00	114.58
Standard Deviation	48.97	48.28	49.80
N	9	7	12

Table 4

Analysis of Variance Results of the Combined Passive Behavior Scores With Groups Determined by Student Interview

Source	df	SS	MS	F	P
Between	2	650.29	325.14	.13	NS
Within	25	60445.14	2417.81		
Total	27	61095.43			

Table 5

Means and Standard Deviations of the Picture Rated Fantasy Groups for the Variable Combined Passive Behavior

	Low fantasy group	Medium fantasy group	High fantasy group
Mean No. of Seconds	128.50	104.43	119.14
Standard Deviation	48.68	40.51	54.38
N	14	7	7

Table 6

Analysis of Variance Results of the Combined Passive Behavior Scores With Groups Determined by Picture Rating

Source	df	SS	MS	F	P
Between	2	2713.36	1356.68	.58	NS
Within	25	58382.07	2335.68		
Total	27	61095.43			

Table 7

Means and Standard Deviations of the Teacher Rated Fantasy Groups for the Variable Combined Passive Behavior

	Low fantasy group	Medium fantasy group	High fantasy group
Mean No. of Seconds	128.09	81.22	153.00
Standard Deviation	33.13	52.60	26.78
N	11	9	8

Table 8

Analysis of Variance Results of the Combined Passive Behavior Scores With Groups Determined by Teacher Rating

Source	df	SS	MS	F	P
Between	2	22964.96	11482.48	7.53	.0029
Within	25	38130.46	1525.22		
Total	27	61095.43			

spent significantly less time in active motor activities.

Since the combined passive and active scores each consisted of five separate categories it was decided to perform a univariate analysis of variance on each of those 10 categories with the factor Teacher rating. Pupil self-report and picture rating were not further analyzed due to their non-significant status. Means, Standard Deviations and Analysis of Variance results for the univariate analysis are shown in Tables 9 - 28.

There were non-significant results for the following six categories: pencil work (Tables 9 & 10), sleeping (Tables 11 & 12), quietly talking (Tables 13 & 14), quiet expressive play (Tables 15 & 16), walking (Tables 17 & 18), and fidgeting (Tables 19 & 20).

The analysis for the other four categories revealed significant results. This included talking (Tables 21 & 22), gazing (Tables 23 & 24), restless (Tables 25 & 26), and tossing (Tables 27 & 28).

Tukey's tests were used to discriminate significant group difference for each of these four significant analyses. With set at .05, the high fantasy group spent significantly less time talking and being restless and more time gazing than did the middle fantasy group. The low fantasy group indicated no significant difference from the middle or high groups. In addition the Tukey's test indicated no significant group differences for the behavior labelled tossing, despite the significant Analysis of Variance results.

Table 9

Means and Standard Deviations of the Teacher Rated Fantasy Groups for the Variable Pencil Work

	Low fantasy group	Medium fantasy group	High fantasy group
Mean No. of Seconds	5.00	4.44	0.00
Standard Deviation	7.77	5.22	0.00
N	11	9	8

Table 10

Analysis of Variance Results of the Pencil Work Scores With Groups Determined by Teacher Fantasy Rating

Source	df	SS	MS	F	P
Between	2	130.46	65.23	1.98	NS
Within	25	822.22	32.89		
Total	27	952.68			

Table 11

Means and Standard Deviations of the Teacher Rated Fantasy Groups for the Variable Sleeping

	Low fantasy group	Medium fantasy group	High fantasy group
Mean No. of Seconds	20.95	15.67	18.13
Standard Deviation	14.12	20.18	20.72
N	11	9	8

Table 12

Analysis of Variance Results of the Sleeping Scores With Groups Determined by Teacher Fantasy Rating

Source	df	SS	MS	F	P
Between	2	137.07	68.54	.20	NS
Within	25	8255.78	330.23		
Total	27	8392.86			

Table 13

Means and Standard Deviations of the Teacher Rated Fantasy Groups for the Variable Quiet Talk

	Low fantasy group	Medium fantasy group	High fantasy group
Mean No. of Seconds	23.73	20.56	26.63
Standard Deviation	17.63	11.82	25.92
N	11	9	8

Table 14

Analysis of Variance Results of the Quiet Talk Scores With Groups Determined by Teacher Fantasy Rating

Source	df	SS	MS	F	P
Between	2	156.69	78.34	.21	NS
Within	25	9298.28	371.93		
Total	27	9454.96			

Table 15

Means and Standard Deviations of the Teacher Rated Fantasy Groups for the Variable Quiet Expressive Play

	Low fantasy group	Medium fantasy group	High fantasy group
Mean No. of Seconds	2.09	.89	4.63
Standard Deviation	6.94	2.67	6.65
N	11	9	8

Table 16

Analysis of Variance Results of the Quiet Expressive Play Scores With Groups Determined by Teacher Fantasy Rating

Source	df	SS	MS	F	P
Between	2	61.18	30.59	.90	NS
Within	25	847.67	33.91		
Total	27	908.86			

Table 17

Means and Standard Deviations of the Teacher Rated Fantasy Groups for the Variable Walking

	Low fantasy group	Medium fantasy group	High fantasy group
Mean No. of Seconds	3.55	7.44	1.13
Standard Deviation	8.43	7.27	2.23
N	11	9	8

Table 18

Analysis of Variance Results of the Walking Scores With Groups Determined by Teacher Fantasy Rating

Source	df	SS	MS	F	P
Between	2	174.85	87.43	1.87	NS
Within	25	1167.82	46.71		
Total	27	1342.68			

Table 19

Means and Standard Deviations of the Teacher Rated Fantasy Group for the Variable Fidgeting

	Low fantasy group	Medium fantasy group	High fantasy group
Mean No. of Seconds	3.82	9.22	3.38
Standard Deviation	8.18	10.24	8.40
N	11	9	8

Table 20

Analysis of Variance Results of the Fidgeting Scores With Groups Determined by Teacher Fantasy Rating

Source	df	SS	MS	F	P
Between	2	191.79	95.90	1.20	NS
Within	25	2003.07	80.12		
Total	27	2194.86			

Table 21

Means and Standard Deviations of the Teacher Rated Fantasy Groups for the Variable Talking

	Low fantasy group	Medium fantasy group	High fantasy group
Mean No. of Seconds	23.73	39.67	9.88
Standard Deviation	16.79	16.02	9.73
N	11	9	8

Table 22

Analysis of Variance Results of the Talking Scores With Groups Determined by Teacher Fantasy Rating

Source	df	SS	MS	F	P
Between	2	3783.62	1891.81	8.54	.0016
Within	25	5535.06	221.40		
Total	27	9318.68			

Table 23

Means and Standard Deviations of the Teacher Rated Fantasy Groups for the Variable Gazing

	Low fantasy group	Medium fantasy group	High fantasy group
Mean No. of Seconds	76.36	39.67	103.63
Standard Deviation	36.89	30.07	65.36
N	11	9	8

Table 24

Analysis of Variance Results of the Gazing Scores With Groups Determined by Teacher Fantasy Rating

Source	df	SS	MS	F	P
Between	2	17616.01	8808.00	4.34	.024
Within	25	50746.42	2029.86		
Total	27	68362.43			

Table 25

Means and Standard Deviations of the Teacher Rated Fantasy Groups for the Variable Restless

	Low fantasy group	Medium fantasy group	High fantasy group
Mean No. of Seconds	20.82	40.78	12.63
Standard Deviation	12.62	26.30	15.84
N	11	9	8

Table 26

Analysis of Variance Results of the Restless Scores With Groups Determined by Teacher Fantasy Rating

Source	df	SS	MS	F	P
Between	2	3657.61	1828.81	5.15	.0133
Within	25	8879.07	355.16		
Total	27	12536.68			

Table 27

Means and Standard Deviations of the Teacher Rated Fantasy Groups for the Variable Tossing

	Low fantasy group	Medium fantasy group	High fantasy group
Mean No. of Seconds	.00	1.67	.00
Standard Deviation	.00	2.55	.00
N	11	9	8

Table 28

Analysis of Variance Results of the Tossing Scores With Groups Determined by Teacher Fantasy Rating

Source	df	SS	MS	F	P
Between	2	16.96	8.48	4.08	.0288
Within	25	52.00	2.08		
Total	27	68.96			

Due to the results of the Analysis of Variance a nonlinear relationship was suspected between the variables. Consequently, a Polynominal Regression of group means, was done on the group numbers to test for nonlinearity. It was found that the four significant variables for the Analysis of Variance, tossing, gazing, talking and being restless, all had significant deviations from linearity which indicates some kind of nonlinear relationship. The results of the Polynominal Regression were for tossing $F(1,25) = 8.09$, $p < .03$; gazing $F(1,25) = 7.56$, $p < .02$; talking $F(1,25) = 14.30$, $p < .00$; and for being restless $F(1,25) = 9.87$, $p < .01$.

The other six variables produced nonsignificant results.

Chapter V

Discussion

Statistical analysis of the data gave limited support for the three Hypotheses.

Teachers did not significantly rate more high fantasizers waiting appropriately in the classroom than low fantasizers. Nor did the high fantasizers significantly rate themselves to wait less actively than low fantasizers. And high fantasizers, identified by interview and picture drawings, did not spend significantly more time in controlled quiet activities while waiting than did middle or low fantasizer groups. However high fantasizers, identified by their teacher, did spend significantly more time in controlled activity while waiting than did the middle fantasizer group.

In light of the considerable non-support of the Hypotheses, it would seem reasonable to conclude that there is no correlation between children's fantasy and classroom waiting behavior. However, before accepting that conclusion, I would like to consider some of the possible reasons behind the non-significant results, and discuss the partial support for the third Hypothesis.

Validity and reliability of the instruments are the first things to question. Because fantasy is such a non-tangible variable to

measure, three different instruments were chosen. Although each had been used extensively by Singer or Pulaski, it is possible that they were not effective measures for the mixed ethnic population of Vancouver. One difficulty that was noted during the fantasy interview was the lack of spontaneous speech of the children. When discussing this observation with one of the teachers, she confirmed that her class was a particularly nonverbal group who demonstrated more fantasy in their art than in their language. Any replication of this study should consider carefully validating the instruments for the specific population.

The behavior measures were developed by the judges, teachers and myself. Reliability and construct validity were confirmed. However some flaws were noted during their use. Accurate results of the teacher rating scale depended on unbiased subjective evaluation by the teacher. Since three different teachers were involved it was impossible to know if all students were being rated the same. In fact, it was evident by the scores that one teacher tended to rate higher than the other two and yet there appeared to be little overall behavioral difference between the classes during art periods. Ideally only one teacher should rate all the students.

The behavior interview had a major flaw. As explained earlier each child was asked three questions about his behavior. When the answers were analyzed it was found that questions two and three almost always elicited the same response. That is, when asked what they did when they finished their work the answer was either "I read"

or "I draw." When asked what they did when they were "stuck" on a question and their teacher was busy, they almost all answered "I go onto the next question." When I asked the teachers what was expected of the children at these times they gave me the same answers. I concluded that the children were very well trained or at least very aware of what they should do. It would seem that further use of this measure would require considerable thought to reword the questions so that the children are not cued to the expected response.

To avoid a variety of logistical problems the Behavior Observation was done in a specialized setting. However, that caused an artificial situation that possibly created some unnatural behaviors. When viewing the tapes the teachers commented on three boys whose behavior they felt was totally the opposite from the daily classroom. It is difficult to know if working directly in the classroom with video equipment would solve or worsen this problem. If time allowed for extensive classroom taping to occur over several months it would possibly produce more accurate results. Both Wells and Walker (Note 1) in their extensive work in England and Australia with children and their language have found that video taping can be used effectively in the home and school. However, they have both noted the need to make the equipment as part of the natural environment.

One factor that was not controlled for was "fantasy encouragement," that is, the amount of fantasy stimulation or training each child had been previously exposed to in the home or school. Saltz et al. (1977), found in their extensive studies on fantasy that only when children were trained in fantasy were they better able to control their motor activity. Therefore, any replication of this study should consider including the amount of fantasy encouragement found in the home as a factor.

Saltz, et al. (1977) also noted that it was necessary to provide a child with a specific imaginary distractor to think about to control waiting behavior. They stated that;

> Children trained in thematic-fantasy play or in sociodramatic play show a superior ability to inhibit their impulsive responses only when given some type of cognitively distracting task to occupy themselves with during the waiting period (p. 376).

Similarly, Singer (1961) in his fantasy/waiting behavior study also provided the children with a cognitive distractor, a story about flying a spaceship, and Mischel & Baker (1975) provided fantasy thoughts to increase waiting. These studies seem to imply that fantasy predisposition and "trained" fantasy correlate differently with behavior control. Future work in this area would be advised to separate these two fantasy types.

The small number of subjects produced statistical problems. Data had to be collapsed into median splits to accommodate the requirements of the Chi-square. With larger numbers significant results may have been obtained.

Despite some instrument and subject difficulties and considerable nonsignificant results, the analysis of variance gave enough support to the third hypothesis to be encouraging.

It was found that the students who were rated as high fantasizers by their teachers did spend significantly more time in controlled quiet activities and, conversely less time in active-oriented motor activities than the middle fantasizers while waiting in a classroom. Contrary to the hypothesis, however, the students considered to be low fantasizers also spent significantly more time in quiet activities than the middle fantasy group. The non-linear relationship between the groups suggests that high fantisizers may wait more passively than average fantasizers, but that low fantasizers are not necessarily more active. Future research should consider this information carefully.

Individual analysis of the specific kinds of waiting behavior did reveal some more encouraging support. High fantasizers, as identified by their teachers, spent more time gazing and less time talking and being restless than did the middle fantasizers. (It should be noted that although tossing was found significant by the Analysis of Variance, it was not so found by the Tukey test. Looking at the means it is evident that such limited time was spent

by any group tossing that the more stringent Tukeys test was unable to measure significance.) Again no significant difference was found between the low and high fantasy groups' waiting behavior.

It would seem likely that one difficulty for lack of significant difference between the high and low groups could again be the limited numbers. However another possibility is the "extremes" problem as sited earlier by Singer, Wilensky and McCraven (1956). They found that extreme cases did not fit the theory of high fantasy and behavior control while the more normal population did. Considering that none of the students in my study were consistently rated with the highest fantasy scores none would be considered extremely high fantasizers. However some students were rated with the lowest scores so they could be rated as extremely low fantasizers. It may be worth studying a large population and eliminate any extreme subjects thereby testing the hypothesis on a more average group.

Again noting that the significance occurred between the middle and high groups in the analysis of variance it seems worth mentioning that if the Chi-square analysis could have had a middle group more positive results may have been found.

One general observation that occurred during data collection was that children who were rated by their teachers as high fantasizers tended to understand the interview questions and generally be more expressive verbally than those rated as low fantasizers. Although this is an informal observation only it does support

research cited earlier that links fantasy with cognitive skills (Houston, 1979; Singer & Antrobus, 1972; Similansky, 1968). Furthermore, it ties in with current theory and research on language development. Several authors (Maddin, 1980; Simon, 1979; Walker and Wells, (Note 1)), have found a relationship between language, school success and general social behavior. The significant factor here is that they have all used imagery and make-believe as a tool to facilitate better language and eventually more appropriate social behaviors.

It seems possible that fantasy is a valuable tool used to develop cognitive and language skills and consequently more socially acceptable behaviors. This writer has found some significant correlation between fantasy level and behavior control. Research cited earlier has found that fantasy can be taught and that it is enjoyed by children and does correlate with cognitive and behavioral functioning.

Mathews (1978) in her studies on fantasy states that:

> The daily accumulation of evidence concerning the value of fantasy play in the lives of young children may well have implications for the establishments of preferences regarding how young children should spend their time and for the provision of appropriate opportunities for them to engage in preferred activities (p. 12).

The implications for classroom teachers are extensive. Enjoyable educational and socially growthful programs could be developed based on the current information available on fantasy play.

It seems worthwile to further study the relationship between fantasy and behavior. Future studies should consider using a larger sample, observing extensively in the classroom and controlling for culture factors, fantasy predisposition and family encouragement. And finally, particular considerations should be given to the possible nonlinear relationship between fantasy groups.

Nothing in the research was found that would suggest that fantasy is bad or harmful. However, there was extensive information suggesting positive affects from the fantasy world. It is a topic that is deserving of considerable future study.

Reference Notes

1. Walker, R., & Wells, G. Personal communication, March 27, 1981.

References

Berkowitze, L., & Rowlings, E. Effects of film violence on inhibitions against subsequent aggression. Journal of Abnormal and Social Psychology, 1963, 66, 405-412.

Berndt, C.H. In Aboriginal Australia. In A. Montagu, Learning non-aggression. New York: Oxford University Press, 1978.

Biblow, E. Imaginative play and the control of aggressive behavior. In J.L. Singer, The child's world of make-believe. New York: Acedemic Press, 1973.

Brandt, R.M. Studying behavior in natural settings. New York: Holt, Rinehart and Winston, Inc., 1972.

Briggs, J.L. The origins of nonviolence: Inuit management of aggression. In A. Montagu, Learning non-aggression. New York: Oxford University Press, 1978.

Brooks, M. Parents' perceptions of children's imaginary companions. Unpublished M.A. Thesis, University of Victoria, 1979.

Brodzinsky, D.M., Messer, S.B. & Tew, J.D. Sex differences in children's expression and control of fantasy and overt aggression. Child Development, 1979, 50, 372-379.

Brophy, J.E. & Todd, T.L. Teacher-student relationships: Causes and consequences. New York: Holt, Rinehart and Winston, Inc., 1974.

Dentan, R.K. Notes on childhood in a nonviolent context. In A. Montagu, Learning non-aggression. New York: Oxford University Press, 1978.

Draper, P. The learning environment for aggression and anti-social behavior among the Kung. In A. Montagu, Learning non-aggression. New York: Oxford University Press, 1978.

Ekstein, R. & Friedman, S.W. The function of acting in the psychotherapeutic process. In R. Ekstein, Children of time and space, of action and impulse. New York: Appleton-century-crofts, 1966.

Fagen, S.A., Long, N.J., & Stevens, D.J. Teaching children self-control. Ohio: Merrill Pub. Co., 1975.

Feitelson, C. & Ross, G.S. The neglected factor-play. Human Development, 1973, 16, 202-223.

Feshbach, S. The drive reducing function of fantasy behavior. Journal of Abnormal and Social Psychology, 1955, 50, 3-11.

Fleming, R.D. The supervisor as an observer. In C.W. Beegle and R.M. Brandt (Eds.), Observational methods in the classroom. Washington, D.C.: Association for Supervision and Curriculum Development, 1973.

Freud, S. The complete introductory lectures on psychoanalysis. New York: W.W. Norton & Company Inc., 1966. (Original publication in 1935.)

Freyberg, J.T. Increasing the imaginative play of urban disadvantaged kindergarten children through systematic training. In J.L. Singer, The child's world of make-believe. New York: Academic Press, 1973.

Gay, L.R. Educational Research. Columbus, Ohio: Merrill Pub. Co., 1976.

Gottlieb, S. Modeling effects upon fantasy. In J.L. Singer, The child's world of make-believe. New York: Academic Press, 1973.

Griffing, P. Sociodramatic play among young black children. Theory into Practice, 1974, 13, 257-264.

Griffiths, R. A study of imagination in early childhood and its function in mental development. London: Kegan Paul, Trench, Trubner & Co. Ltd., 1945.

Groos, K. The play of man. New York: Appleton, 1901.

Hall, G.S. Youth. New York: Appleton, 1906.

Houston, J. The world of imagery. Dromenon, 1979, 2 (3-4), 17-23.

Jackson, P.W. Life in classrooms. New York: Holt, Rinehart and Winston, Inc., 1968.

Klinger, E. Structure and functions of fantasy. New York: Wiley, 1971.

Kreitler, H. & Kreitler, S. Cognitive orientation and behavior. New York: Springer Pub. Co., 1976.

Lorenz, K. On aggression. New York: Harcourt, 1966.

Maddin, J. Imagery Training Program. Unpublished M.A. Thesis, University of British Columbia, 1980.

Mathews, W.S. Sex and familiarity effects upon the proportion of time young children spend in spontaneous fantasy play. Journal of Genetic Psychology, 1978, 133 (1), 9-12.

Meichenbaum, D.H. Cognitive-behavior modification: An integrative approach. New York: Plenum Press, 1977.

Meichenbaum, D.H. & Goodman, J. Training impulsive children to talk to themselves: A means of developing self-control. Journal of Abnormal Psychology, 1971, 77 (2), 115-126.

Mischel, W. & Baker, N. Cognitive appraisals and transformations in delay behavior. Journal of Personality and Social Psychology, 1975, 31, 254-261.

Piaget, J. The language and thought of the child. New York: Harcourt, 1932.

Pulaski, M.A. Toys and imaginative play. In J.L. Singer, The child's world of make-believe. New York: Academic Press, 1973.

Pulaski, M.A. The rich rewards of make believe. Psychology Today, January 1974, 68-74.

Pytkowicz, A.R., Wagner, N.N., & Sarason, I.C. An experimental study of the reduction of hostility through fantasy. Journal of Personality and Social Psychology, 1967, 5, 295-303.

Rorschach, H. Psychodiagnostics. New York: Grune & Stratton, 1942.

Saltz, E., Dixon, D., & Johnson, J. Training disadvantaged pre-schoolers on various fantasy activities: Effects on cognitive functioning and impulse control. Child Development, 1977, 48, 367-380.

Saltz, E. & Johnson, J. Training for thematic-fantasy play in culturally disadvantaged children: Preliminary results. Journal of Educational Psychology, 1973, 66, 623-630.

Shure, M.B., Spivack, B., & Jaeger, M. Problem-solving, thinking and adjustment among disadvantaged preschool children. Child Development, 1971, 42, 1791-1903.

Simon, C.S. Communicative competence: A functional pragmatic approach to language therapy. Arizona: Communications Skill Builders, Inc., 1979.

Singer, J.L. Delayed gratification and ego development: Implications for clinical and experimental research. Journal of Consulting Psychology, 1955, 19, 258-265.

Singer, J.L. Imagination and waiting ability in young children. Journal of Personality, 1961a, 29, 396-413.

Singer, J.L. The experience-type: Some behavioral correlates and theoretical implications. In M.C. Rickers-Ovsiankina (Ed.), Rorschach Psychology. New York: John Wiley & Sons, Inc., 1961b.

Singer, J.L. The child's world of make-believe: Experimental studies of imaginative play. New York: Academic Press, 1973.

Singer, J.L. Imagination and make-believe play in early childhood: Some educational implications. Journal of Mental Imagery, 1977, 1, 127-144.

Singer, J.L., & Antrobus, J.S. Daydreaming, imaginal processes, and personality: A normative study. In P. Sheehan (Ed.), The function and nature of imagery. New York: Academic Press, 1972.

Singer, J.L. & Herman, J. Motor and fantasy correlates of Rorschach human movement responses. Journal of Consulting Psychology, 1954, 18, 325-331.

Singer J.L., Meltzoff, J., & Goldman, G.C. Rorschach movement response following motor inhibition and hyper-activity. Journal of Consulting Psychology, 1952, 16, 42-47.

Singer, J.L., & Rowe, R. An experimental study of some relationships between daydreaming and anxiety. Journal of Consulting Psychology, 1962, 26, 446-454.

Singer, J.L. & Spohn, H.E. Some behavioral correlates of Rorschach's experience-type. Journal of Consulting Psychology, 1954, 18, 1-9.

Singer, J.L., Wilensky, H., & McCraven, V.C. Delaying capacity, fantasy, and planning ability: A factorial study of some basic ego functions. Journal of Consulting Psychology, 1956, 20, 375-383.

Skolnick, A. Motivational imagery and behavior over twenty years. Journal of Consulting Psychology, 1966, 30, 463-478.

Smilansky, S. The effects of sociodramatic play on disadvantaged preschool children. New York: Wiley & Sons, 1968.

Sorenson, E.R. Cooperation and freedom among the Fore of New Guinea. In A. Montagu, Learning non-aggression. New York: Oxford University Press, 1978.

Spivack, G. & Shure, M.B. Social adjustment of young children: A cognitive approach to solving real-life problems. San Francisco: Jossey-Bass, 1974.

Strom, R. Observing parent-child fantasy play. Theory into Practice, October 1974, 13, 287-295.

Whiting, B.B., & Whiting, W.M. Children of six cultures. London: Harvard University Press, 1975.

APPENDIX I

Letter to Parents

DR. GEORGE M. WEIR ELEMENTARY SCHOOL

Dear

I am requesting your permission to use _____ in a thesis study to complete the requirements for my Master's degree. I would ask _____ some questions about his imagination and waiting behavior as well as have him draw some pictures. Both video equipment and a tape recorder may be used.

All information will be handled in a professional manner and of course kept completely confidential and anonymous.

Please sign to indicate your permission _____.

Thank-you for your help.

_____

Joanne Pearson
Teaching & Evaluation Centre

P.S. I have discussed this project with Ms. Pearson and am satisfied that it is a worthwhile program.

_____

J.B. Fulton
Principal

APPENDIX II

Date _____ Name _____

Fantasy Interview

1. What is your favorite game? What do you like to play the most?

2. What game do you like to play best when you're all alone? What do you like to do best when you're all alone? Do you ever think things up?

3. Do you ever have pictures in your head? Do you ever see make-believe things or pictures in your mind and think about them? What sort of things?

4. Do you have a make-believe friend? Do you have an animal or toy or make-believe person you talk to or take along places with you?

Score _____

APPENDIX III

Teacher Rating of Fantasy

Choose one score for each child.

This child:

0 Is extremely unimaginative in his work. Introduces no pretend elements into a situation. Extremely stimulus-bound by the materials.

1 Is slightly imaginative in work, occasionally introducing fleeting pretend elements into a 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 activities.

2 Shows a moderate amount of pretending in his work, but not very original or removed from the actual stimulus situation. Little organization or consistency of pretense or role-playing. Considerable changing from one activity to another.

3 Shows a substantial amount of pretend elements in his work, 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.

4 Shows high originality in the ways he uses information and materials. A very high number of pretend elements in his work. High organization of activity and role-playing. Is able to go well beyond what the stimuli suggest.

Boys' Names	Score

APPENDIX IV

Fantasy in Drawings

0 something concrete from child's own experience (house, dog, sun, mother)

1 that which exists in reality, but most likely has been experienced indirectly (talk, books, T.V.)

2 picture centres around real stimulus, but adds fantasy details

3 gives new twists to familar realities (umbrella as parachute)

4 fantasy drawings (magic tree, cartoon character, talking animals)

Boys' Names	Score

APPENDIX V

Date _____ Name _____

Waiting Behavior Interview

1. When you are standing in a line waiting at the gym or waiting to come into the school, do you:

   0 stand still and do nothing?
   1 stand still and chat with a friend?
   2 move and wiggle quietly?
   3 play with others in line?
   4 jump about, poke or push others in line?

2. If you are finished your work early and your teacher asks you to wait at your desk until everyone is finished, do you:

   0 sit quietly and do nothing?
   1 sit quietly and draw or read?
   2 chat with friends?
   3 play with things and make noises or maybe wander about the room?
   4 talk, laugh, and play with friends, throw things or maybe poke and 'bug' someone?

3. If you are having trouble with your work and need the teacher's help but she is busy, would you:

   0 sit quietly and do nothing? Try to figure it out?
   1 quietly find something else to do?
   2 ask a friend for help?
   3 play or chat or make other noises?
   4 leave your desk, wander around the room, and maybe 'bug' someone else?

Score _____

APPENDIX VI

Teacher Rating of Behavior

Choose one score for each child.

When waiting this boy:

0 Sits at his desk quietly with little apparent activity. He may have his head down sleeping or daydreaming, or he may be gazing into space.

1 Sits at his desk involved in some quiet passive activity such as drawing, doodling, reading or imaginative play, (i.e. eraser becomes car).

2 Sits at his desk quietly involved in an activity but on occasion (about 50% of the time) is more active--he may wiggle and chat, (not particularly disruptive for others).

3 Does not sit still but wiggles and moves about drops items, rummages through his desk and may ask others what to do, (tends to be rather disruptive).

4 Has difficulty sitting at his desk. He will move away from his desk if possible, or fall from his seat due to "antics." He may be very active in conversation with peers or involve himself in tossing and flicking items about the room, (considerably disruptive).

Boys' Names	Score

APPENDIX VII

Behavior Observation Form

DATE_____ NAME_____

TIME_____

	BEHAVIORS	SECONDS	TOTAL
PENCIL WORK:	drawing, scribbling or doodling on paper, book or other attainable objects such as desk, eraser or arm.		
GAZING:	gazing or daydreaming out window at a wall or into space.		
SLEEPING:	head down, eyes closed; slouched in desk eyes closed; head on hand, eyes closed.		
QUIET ACTIVITY:	silently handling or playing with real or make-believe object; reading.		
QUIET EXPRESSIVE PLAY:	involved with real or make-believe activity at desk making movements and sound that are apparent but not disruptive.		
TALKING:	chattering or calling out to other students or teacher.		
WALKING:	leaving desk to collect items, sharpen pencil, talk with others, wander.		
FIDGETING:	banging, tapping items to make noises.		
TOSSING:	throwing tossing items around room such as paper, eraser bits, etc.		
RESTLESS:	non-directed movement, wiggling, squirming, rummaging, climbing in and out, falling from desk.		

VITA

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Title of Thesis/Dissertation

Children's Fantasy Level and Their Classroom Waiting Behavior.

Author [redacted]

Christina Joanne Pearson
Name (typewritten)

July 13, 1981
Date