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A COMPARISON OF HIGH RISK KINDERGARTNERS' READINESS SCORES AS EVALUATED BY THEIR MOTHERS AND TEACHERS

By

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ABSTRACT

A COMPARISON OF
HIGH RISK KINDERGARTNERS' READINESS SCORES
AS EVALUATED BY THEIR MOTHERS AND TEACHERS

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Problem

How best to determine a child's readiness to begin school has long been a topic of disagreement among educators. Such factors as mental age, self-concept, IQ, physical development and tooth eruption age have been considered but chronological age is most often used by school systems. In Michigan the child who will be five years old as of December first of the year he begins school is determined ready to begin school. But as chronological age is sometimes deceptive as a determinant of a child's readiness to have success in school disagreements arise between parents, teachers and administrators as to whether a given child actually is ready for school. Thus, the purpose of this study was to give some indication of whose subjective assessment of a child's readiness to start school is more likely to agree with scores of a readiness test, the mother of that child or the child's kindergarten teacher. The study also was to indicate numerical differences in the evaluative scores by the mother and teacher. Finally, the possible differences in the scores of mothers of boys and the mothers of girls were explored.

Methods

Taking a developmental approach, the level of school readiness was considered as crucial to the child's success for the rest of his

academic career and thus of import in kindergarten. As the child with an autumn birthday is younger and, therefore, possibly further behind in development than his January peer, it was the September, October and November birthday age group that was considered "high risk" and was focused on for testing.

The Anton Brenner Developmental Gestalt Test of School Readiness (BGT) was used during the eighth week of school to indicate the readiness score for thirty autumn birthday children. The Ready or Not? Checklist (Austin and Lafferty, 1968) was used as a structure for ascertaining the parent's and teacher's subjective opinion of the child's readiness level. Using a two dependent variable t-test the mean scores of parents and teachers were compared. The Pearson Product Moment Correlation was used to determine correlation coefficients for the parents and the teachers and these coefficients were analyzed through the use of the Fisher Z-transformation. Finally, a two independent variable t-test was used to compare the mean score for the mothers of boys and the mean score for the mothers of girls. The level of significance was set at .05 for all the tests.

Conclusions

The two dependent variable t-test showed the parents to be significantly higher evaluators of school readiness than the teachers. That is, their mean score was 7.5 points higher than the teachers' mean score.

The Pearson Product Moment Correlation revealed the teachers to have a significant correlation with the children's readiness scores on the Anton Brenner Test. The mothers' correlation coefficient was not significant. The Fisher Z-transformation showed these correlation

coefficients to be significantly different. But the two independent variable t-test did not indicate a significant difference in the readiness evaluation score of mothers of boys and mothers of girls.

This thesis is dedicated to my parents, Richard J. Savage and Anna B. Savage, whose lifelong pursuit of education for themselves and their family has been my example and my inspiration.

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CHAPTER I

THE PROBLEM

Need

In Michigan the child who is five years old as of December first is determined by law to be ready for kindergarten. The public school law (1978-79) reads as follows:

> In a school district where a provision is made for kindergarten work, a child, a resident of the district, is entitled to enroll in the kindergarten if the child is at least five years of age as of December first of the school year of enrollment. (p. 129)

This results in children whose birthdays fall in the autumn months of September, October and November starting school when they are four years old. Readiness and maturity are highly individual, and their attainment is not completely dependent on chronological age achievement. Any young child stands the chance of not being ready for the requirements of public school. But these children of four years, born in autumn, can reasonably be considered "high risk". Ames (1967) puts it very succinctly:

> Our findings have been that so long as the kindergarten and first grade curriculums remain more or less as they are in our school systems, the average girl needs to be fully five before starting kindergarten and the average boy fully five and a half. (p. 1)

Questions are often raised as to whether the high risk kindergartner should start school in the fall when s/he is four years old or wait until s/he is five. This question may be raised by the parent before

the child starts school or the kindergarten teacher in the early months of the school year. Determination of readiness will most likely be made by these individuals. But there is seldom time, staff or materials available to determine the child's readiness level. Even with test data, other factors may seem to negate or override the test results. The decision may ultimately, therefore, be made by personal, highly subjective evaluation by teacher and/or parent.

In this case the mother and the kindergarten teacher may not discern the same level of readiness for the child and questions arise as to who is more accurately evaluating the child. As this decision may result in the child starting school before s/he is ready or waiting an extra year when, in fact, s/he is perfectly ready for school, it is important to know who is most likely to make the more accurate evaluation.

Purpose

The purpose of this study is to indicate whose subjective assessment of a high risk kindergartner's school readiness is more likely to be accurate, the mother's or the kindergarten teacher's. The study also indicates the differences in the evaluative scores of the child's mother and kindergarten teacher and whether there would be a difference in the mother's score for a male or female child.

Hypotheses

The following hypotheses will be tested:

Hypothesis 1:

> Mothers of autumn birthday kindergarten children and kindergarten teachers will perceive the readiness level of the children differently.

Hypothesis 2:

> The score of the kindergarten teacher for the child will correlate more closely with that of an objective readiness score than will the score of the mother.

Hypothesis 3:

> The mothers of male children and the mothers of female children will score their children differently on a subjective readiness checklist.

Importance of the Study

This project is important for the following four reasons. First, a review of literature and research in this area indicates a lack of study concerning how readiness is determined by mothers and teachers and how their evaluations compare. Many articles are written in professional journals and parent magazines alike concerning what factors should be considered by mothers evaluating their child's readiness for kindergarten. Articles also instruct them in how to prepare their child for school. But studies of how mothers do, in fact, evaluate their children are limited. Secondly, the child who begins school too early or before s/he is ready for academic rigors encounters problems that may follow him/her throughout his/her school career. Missing a concept at one level of study may cripple growth in several areas. For instance, the child who does not learn that sounds are the building blocks of our oral langauge and that these sounds can be represented on paper by symbols called letters which follow predictable patterns, is going to have ongoing decoding problems and perhaps a reading disability. Therefore, a good start in school, sound in the basics of prereading and premathematics, is imperative. Because of this, it is important for schools to have systems of

identifying kindergartners who are not ready and for understanding how that decision is made.

A third reason indicating the importance of the project is related to the second. Standardization tests are not always used to determine readiness for school. The school system that does not offer prekindergarten activities for evaluating children is trusting subjective parental judgment to determine readiness when all the parent may be considering is chronological age. This study sheds light on how accurate that decision may be.

Finally, mothers and teachers do not always assess the child's readiness the same. In some instances one party feels that the child is not ready for school and should perhaps wait another year before entering kindergarten but the other party is sure that the child is prepared for what is expected. Therefore, it is important to know who is more likely to be making an accurate assessment of the child. This project gives some indication of that.

Assumptions

The following assumptions underlie this study:

1. Readiness for school is crucial to the child's success for the rest of his academic career.
2. Children with autumn birthdays are more likely not to be ready to begin school than older classmates.
3. School readiness can be determined by an objective testing instrument.
4. School readiness is often determined by subjective decision making by the child's mother and/or teacher.

Limitations

This study is limited to a minimal sample in a small Michigan town and, therefore, generalization is not appropriate. Forty-two children and their parents were sent letters asking them to take part in the study. Ten parents did not respond and could not be contacted. Two responded negatively and one of those was very hostile. These parents, whose reasons for not participating are mostly unknown, were, therefore, not accounted for in the study.

Another very valuable group was missing from the study. The sample included only autumn birthday children who were enrolled in the school system's kindergartens. Any child whose parents took the initiative to wait another year until the child was five to begin school was not available. These parents could have made a difference in the results of the study.

The validation procedures of the study were limited in two ways through the instrumentations used. The Ready or Not? Checklist (Austin and Lafferty, 1968), used to give structure to the teachers' and mothers' evaluations, is meant to be used with the child at hand to respond to the examiner. For this study it was used as a subjective recall device without the child taking part. Secondly, the Anton Brenner Developmental Gestalt Test of School Readiness (Brenner, 1964) was the only instrument used to give an objective score for school readiness.

The study was further limited in that there has not been extensive previous research regarding how teachers and mothers perceive the readiness of a group of kindergartners. In the five studies that were located, three used the Pre-School Attainment Record. This resulted in

only a very vague picture of how the two groups actually view and determine readiness.

The time of year that the study was done limits it as well. The testing was done in early November. The reflection of the teacher's effect on the children would not yet be clearly defined. Therefore, the teachers' evaluations are more objective; the parents' evaluations subjective. This limitation is developed further in the discussion of theory later in this chapter.

Conceptual Definitions

In the interest of clarity it is necessary to define two of the terms which have already been used extensively in this paper and will continue to be used. The first is fairly clear cut and simple to define while the other is considerably more elusive. As noted earlier, "high risk kindergartner" refers to the child who was born in the month of September, October or November. This child would be five years old before the prescribed date of December first of the year he started school but would be only four years and nine, ten or eleven months in September when s/he began kindergarten. Mawhinney (1964) studied 387 children who were tested and approved for early entrance in kindergarten (having fifth birthday before the end of January). Although these children were admitted on the basis of superior potential scores, follow-up of these children found they had not achieved as expected. Thirty point six percent were considered poorly adjusted. Only 4.6% were judged to be outstanding leaders while 74.4% were considered to be entirely lacking in leadership. Twenty-four point four percent were superior academically while 25.3% were either below average or had

repeated a grade. It would seem that entering superior-potential students may reduce their achievement to average at best. It is further substantiated by Ames (1974) and King (1955) that the younger child is often at risk for success in school.

Readiness for school is a highly complex concept. It can be defined in many different terms and with discrepant concerns. Factors which have historically been considered important include chronological age; intelligence quotient; visual perception skills; physiological age in terms of teething, height, weight, wrist size, and vision; mental age; or a common aggregate of qualities termed "maturity".

Authors use different terms to refer to readiness. Ilg and Ames (1972) call it "behavior age". Behavior age is defined as the age at which the child behaves in accordance with the norms for each of the developmental factors. Moore and Moore (1972) have introduced the term Integrated Maturity Level or IML. They define IML as the "point at which the developmental variables (affective, psychomotor, perceptual and cognitive) within the child reach an optimum peak of readiness in maturation and cooperative functioning for out-of-home group learning experience."

Readiness in this paper, in simple terms, refers to the child's ability to handle the tasks which will be required of him by the school. It is his functional potentiality or state of development which will enable him to successfully relate to school demands. The level of ability to integrate and incorporate learnings from early years of life into the demands of school training determine the child's readiness for school and while this takes place at a cognitive level it is reflected in social and emotional behavior.

Conceptual Orientation

There is no one theory that can explain why two concerned adults can look at the same child and arrive at different conclusions as to that child's readiness for school. Differing views of what "readiness" means probably has a lot to do with the confusion. Swiss psychologist, Jean Piaget (1896), noted for his work with nursery school children, showed that there are distinct lines of development and that quite early in a child's life social factors in combination with the child's physiological development influence a child's perception and thought processes. No amount of training or instruction can enable a person to function in a given way before he is biologically ready. Brenner (1950) concurs with Piaget's theory. He feels that perceptual-conceptual development is a principal factor in personality development, learning and readiness for school. Growth, development and learning take place through interaction between an individual and his environment. When the kindergarten teacher considers the ability to perform certain cognitive tasks as requisite to success in the kindergarten room, the child who has not reached that developmental level is better off not in the situation.

Boszormenyi-Nagy's (1973) theory on family bonds and learning offers a different view of readiness and sheds light on why a parent may consider a child ready for school when the teacher may not. His idea is that learning is, in effect, an act of giving and must be preceded by developmental nurturing. Most important for school learning is that the child must be capable of transferring the "giving" from parent to teacher. Perceptions of readiness by the kindergarten teacher are developed early in the year or possibly even in the spring at

kindergarten round-up. Without time for the nurturing development it is easy to see why the perception of parent and teacher are different.

More traditional is readiness in terms of skills. Paradis and Peterson (1975) predict success in school when the child's skills match with what he is asked to do. The child who is lacking in required skills will not achieve academic skills. It is curriculum in this case which is the determiner of readiness. And it is the teacher who is the determiner of curriculum. Since the parent is not as familiar with the curriculum expectations she may feel that the child has the skills required not recognizing the teacher's differing expectations. This could account for differing scores.

The part that ego, both of the parent and of the teacher, plays cannot be overlooked. Anyone who works with the young child shapes that child to some extent. They may see the child's performance as a reflection of their skill at positively or negatively affecting other human beings. The parent is almost always closer to the child than is the teacher. The parent sees nearly five years of her affect on that child. The teacher, however, has only a short-lived relationship with the youngster--at the time of this study, about eight weeks. A lower assessment is very likely to be harder for the parent who has a strong identification with the child. Unless a very strong identification has developed with the child and the teacher it is likely to be less personally devastating to the teacher to give the most objective opinion of the child's readiness. Our society tends to equate a lack of skill with a lack of intelligence, rather than as a lack of development. The parent who feels this way may have trouble giving her child a low rating.

These four approaches provide the theoretical foundation for this study. The interplay of the four views accounts for how methods and study were conceived, how analysis has developed and how the need and limitations of the study were recognized.

Overview

Chapter II includes a review of recent literature pertinent to the study of school readiness. A description of the sample, operational measures, hypotheses in testable form and analysis procedures are found in Chapter III. In Chapter IV the gathering and analysis of data including interpretation of results is explained and Chapter V is a summary of the study with conclusions and recommendations for further study.

CHAPTER II

REVIEW OF THE LITERATURE

In the review of the literature for this project, several guidelines were followed. First of all, it was decided to concentrate mainly on research done and reports written in the 1970's. It was, however, necessary to follow up on some earlier sources. Most of the information on the Anton Brenner Gestalt Test was taken from sources written in the late fifties. In other cases, studies done in this decade referred to earlier studies which were also researched. And, finally, several earlier books and articles were chosen in order to do more in-depth study of certain authors. Therefore, an almost equal balance between pre- and post-1970 research was used.

Secondly, the research considered is not always concerned with kindergarten entrance but instead refers to first grade entrance. This is because many school systems do not offer public school kindergarten. First grade is then the child's first school experience. This makes a small amount of difference in considering readiness factors because first grade readiness includes reading readiness while kindergarten readiness commonly does not. As other aspects of school beginnings are much the same, this literature is included.

The review of the literature is organized into four parts. The first is "The Importance of Readiness". "Chronological Age as a Determinant of School Readiness" is discussed in the second part. The

third section covers the scant research done on "When Parents and Teachers Evaluate Readiness". The final section is a "Summary".

The Importance of Readiness

Shirley Zeitlen (1976) identified three categories of children who experience early learning difficulties. These are:

1. "Slow bloomers"--children with uneven or irregular maturation (these children eventually catch up);

2. The persistently immature who consistently remain behind in the maturation process;

3. The perceptually handicapped, brain injured, environmentally deprived, etc., children who have a variable outcome depending on the quality and quantity of environmental encounters.

This research is concerned with the first two categories. The perceptually handicapped have special problems which need highly trained, specialized help and assistance while the needs of the immature are very different. Banas (1975) highlighted these needs:

> When we ask, 'What is his readiness for tasks he will be expected to handle?' we are told that children develop abilities at different rates, each individual having his own time schedule, the range of 'normal development' being as wide as several years for some skills. The child that develops slowly is called 'immature' and we are told that he 'will outgrow it', (whatever 'it' is). We also learn that skills are developmental in that one step must precede a more advanced step.
>
> However, it is a fact that, at a prescribed age, the child is, 1) required to enter a formal academic setting, 2) is expected to behave in a prescribed way, 3) is expected to perform specific skills to an established criterion, and 4) is required to learn a set amount of material in a certain span of time, whether he is ready or not. (p. 1)

These children are a high risk in kindergarten. They are the ones who, because of problems of development and/or experiential learning

are least able to meet the expectations of schools as they are now. The operative words, however, are "as they are now". Paradis and Peterson (1975) reviewed three readiness studies and summarized:

> The three studies presented emphasize the need for teachers to assess each individual child's readiness skills. Following the assessment of skills, teachers should tailor programs to meet skill deficiencies... Unfortunately, experience suggests that a limited number of teachers actually diagnose each child's readiness skills. In other cases, all pupils progress as a group through the program regardless of background brought to school. (p. 448)

A child has success in school when there is a match between what he is asked to do and what he is able to do. There are, in other words, two components to high risk: that which the school requires of the child and that which the child brings to the school. Readiness makes up a major part of the last component.

Experts and research through the years have disagreed on what is essential for a child to be ready for school. Chronological age is the most common determinant and will be discussed in the second part of this section. But Cole (1950) quoted an English schoolmaster of the 1500's who recognized age as a poor criterion of school readiness:

> One of the first questions is at what age children should be sent to school, for they should neither be delayed too long, so that time is lost, nor hastened on too soon, at the risk of their health. The rule, therefore, must be given according to the strength of their bodies and the quickness of their wits jointly. What age should be I cannot say, for ripeness in children does not always come at the same time. (p. 269)

An interest in mental age caught fire in the fifties. But the appropriate mental age for learning was as hard to agree on as appropriate chronological age has been. Hall (1963) suggested between six years four months and six years six months. This accords with earlier

studies, but later studies and their appropriate mental age for learning range from six to seven years. Hedges (1977) thoroughly researched the reviews of the past fifty years and concluded "By itself, mental age is not sufficient to assure the parent that his/her child will succeed in first grade" (p. 28). He similarly disposed of IQ (p. 33), sex (p. 40) and physiological development (p. 48) as being unreliable indicators. He concluded finally:

> No single criterion has been found to be a sufficiently reliable indicator, whether chronological age, mental age, IQ, physiological development or social or emotional maturity. It is apparently necessary to examine these criteria in combination in making educational decisions about a youngster. (p. 64)

Anton Brenner (1959) was more decisive. He feels that perceptual-conceptual development is a principal factor in personality development, learning and readiness for school. Growth, development and learning take place through interaction between an individual and his environment. Brenner stated:

> The more a child is able to perceive, to incorporate experience into developing behavior and to analyze and synthesize into increased degrees of differentiation and specification, the more he is ready for school. (p. 27)

Readiness, then, is readiness for a task or a multitude of tasks. It includes the functional potentiality of the child to relate to school.

Hoffman's (1957) study of eighteen upper and middle class kindergartners upholds Brenner's readiness discussions. Through home interviews and readiness tests he evaluated the changes and consistencies in growth for the children from fall to the following spring. He concluded that the children's ability to analyze, discriminate and differentiate

were all-important to their school success. Further, he found that physical factors and age were not significantly important.

Brenner and Samelson (1959) did research which puts the theory of his definition into practical perspective. They observed ten children during the early kindergarten weeks to determine the precursory affect of early behavior on first grade performance. In seventeen all-morning observations, the kindergarten children were rated for transactions with objects, symbols, peers and teachers or other adults. Analysis of the five rated by teachers as most successful and the five rated as least successful in first grade resulted in the identification of the following behavior components (p. 140):

Successful

--personally secure and skilled in interpersonal relations
--intellectually curious, self-directing
--enjoys doing what is right and meeting others' expectations
--models life towards adult image
--desire to be superior and compete successfully

Less Successful

--strong fears and anxieties
--unobtrusive and immature
--restless and "on the go"
--angry and can't accept behavior limits
--fears competition and failure and avoids circumstances which invite it

Flynn (1975) also examined behavioral components of readiness for school. His study was conducted with 132 four year old black migrant children. He defined readiness as "the adequacy of existing capacity in relation to the demands of a given learning task" (p. 40). The children in his study were tested by four black female psychologists on cognition, delay of gratification, risk taking, self-concept and

self-control. He found that only self-control accounted for a significant proportion of achievement growth variance for boys. For girls, delay in gratification and strong self-concept were significant components of readiness.

Vincent, Bright and Dickason (1976) also found self-concept to be important in their studies of readiness. They felt that the lack of discrimination and response skills was what was holding back 53 students assessed as being "not ready" for school on the Metropolitan Readiness Test. The children were tutored for two hours per day mixing lessons with Earn/Spend cards and pleasure activities. At the end of that year and at the end of second and third grade the children were tested with the California Achievement Test. The results were significant ($p < .05$) for achievement in the next two years. They concluded that through reinforced academic work and pleasure activities desirable study and social habits were achieved, thus heightening readiness scores. They further concluded:

> With appropriate planning and implementation preschool programs apparently can be very effective in developing readiness skills in socially/educationally deprived children. (p. 253)

School readiness emerges from research then as an amalgamation of different behavioral and cognitive components. In making the progress through personality differentiation and increasing objective reality perception the child begins to organize, interpret and associate what he has learned with what he encounters. Reality perception depends on the developmental level at which one is located in his ability to perceive and conceptualize reality, internal and external. This is perceived by others as mature or immature in relation to others--in the

kindergartner's case, usually, others of the same age. These behaviors and levels can be measured through instruments. Zeitlein (1976) pointed out that there are over a thousand instruments which are available for screening and diagnosis of young children, and new ones appear in the literature regularly. They can be described in six categories: published tests, teacher observation tests, parent instruments, parent surveys, information gathering question instruments, physical examinations and devised tests. But even the developers of these tests do not always agree on what is most important for school readiness. In his exploration of readiness tests, Rude (1973) cited Calfee (1970) as feeling these skills to be prerequisite to reading readiness (p. 488):

--matching of visual forms
--auditory-phonetic identification
--letter-sound association
--vocabulary knowledge
--general achievement

Venezky (1970), on the other hand, chose these:

--attention to letter order
--attention to orientation
--attention to word detail
--picture sound learning
--sound matching
--sound blending

Perceptual development progresses from diffuse, undifferentiated totality perception to more differentiated, clearly structured "objective" reality perception, according to Brenner (1959). All children go through this progression. But they go through it at different rates. Banas stated (1975):

> Readiness is not an even development. Thus, a child may be ready for visually presented tasks but unready for auditory ones. He may be well endowed intellectually but unready to perform a task the expected length of time.

> If he does not have the readiness to handle a task to the criteria set forth as 'average', he may be given an unsatisfactory 'grade', an unsmiling face, or extra work; consequently, an adverse chain reaction with teacher, student and parent may develop. After repeatedly trying and failing he may respond by withdrawal and inattention. In this case, the stage may be set for failure and frustration unless someone intercedes and recognizes his readiness level ...It is vital, therefore, to assess what a particular child is ready to do. (p. 2)

Brenner (1975) quoted Dr. Joseph A. Johnston, Chief of the Department of Pediatrics at Henry Ford Hospital in agreement:

> Introducing a child to a new learning experience before he is capable of making progress sufficient to satisfy him may result in such serious frustrations that motivation and interest are permanently depressed...Disinclination of certain children towards reading, arithmetic, etc. can often be traced directly to early frustrating experiences in these activities. (p. 115)

Brenner (1959) says the ability to differentiate leads to the child paying attention to 1) differentiation within a field or object, 2) size, form and color and 3) to proportion and frequency of relationships from which develop number concepts. This brings order and meaning. The extent to which they are used indicates readiness.

Roberts (1976) in discussing reading readiness and Piaget's theory of conservation says that readiness for academic tasks is signaled by "...the cognition that certain properties (quantity, number, length, etc.) remain invariant (are conserved) in the face of certain transformations." In other words, the child needs to conserve in order to learn math, reading, science and other skills. She went on to say:

> Research...has shown that instruction presented before a child has acquired the developmental competencies is useless. Once the child has the competencies, instruction of many varied types appears to be affective. (p. 249)

In summary, school attendance and successful completion of tasks by the kindergartner are directly dependent on that child having reached a certain level of readiness. Readiness for school means that the child is equipped to handle the demands of school. What determines that readiness is now commonly agreed on as being a certain level of ability to differentiate and analyze new situations on the basis of previously learned experiences.

Chronological Age as a Determinant of School Readiness

Chronological age has been used to determine school entrance for centuries but many experts feel it is a poor indicator of readiness. It is used because administratively it is the most feasible and easily accounted for criterion. Hirst (1970) stated:

> Public school entrance age becomes entangled in opposing educational philosophies and may become an administrative expediency. Conflicting opinions and some research claim certain minimum ages for academic success. Advocates of early childhood education question the desirability of demanding children meet school requirements. Programs should meet the requirements of the children is the claim. (p. 547)

Because there is such wide-spread dissatisfaction with chronological age as the sole criterion for school entrance, much research has been done on its import.

Ames and Chase (1974) stated:

> More important for later schooling than anything you may teach him in his preschool years is to be as certain as you can be that before he begins kindergarten or first grade he is actually mature enough to do so. (p. 171)

Their feeling is that if you must use age alone as a criterion then girls should be fully five years old and boys fully five and one-half

years old before beginning school. They based this on a study conducted by the Gesell Institute in Weton, Connecticut schools. The Gesell Behavior Examination was given to all kindergarten, first and second graders in the fall of 1957, 1958 and 1959. The results were startling. They found that only 37% of the children were fully ready when they started school. Forty-three percent were questionably ready for kindergarten and were definitely not ready for promotion. Twenty percent were definitely not ready for kindergarten. Tests on the first and second graders found that one-third were not ready for that grade. Secondly, it was found that the "not ready" children did not catch up in the following years. Finally, they found a high correlation between fall prediction and June evaluation.

In choosing to start boys and girls at different ages, Ames and Chase agreed with research by other authors. Pauley (1951) studied thousands of Tulsa, Oklahoma youngsters' records for sex differences and legal school entering age and concluded that (p. 9):

> 1. Boys usually develop in nearly all respects more slowly than girls...much of the research in sex differences indicates...that the entering age for boys should be raised three or more months.
>
> 2. In all likelihood the mental hygiene of many immature boys and their parents will be improved if a later entering age can be established for boys than girls.
>
> 3. Psychologists are quite well agreed that on the average, maturity is reached about two or three years earlier by girls than by boys.

Pullen cited Packard (1972) in even stronger terms:

> If the world of education is to reflect physiological reality, the entering age for boys into first grade should be raised so that, as long as there are mixed classes, they will be one-half year older than the girls in those same classes. This might reduce some of the humiliation of boys at the onset of their educational experience. (p. 20)

However, Braga (1971) disagreed in saying:

> The question occasionally is asked whether different admissions policies should be followed for boys and girls, since in several ways boys seem to mature more slowly than girls...however, most other researchers have not found sufficient evidence of general difference between the achievement of boys and girls to justify such a decision. (p. 38)

Brenner (1959) found no correlation for sex as a variable in his factor analysis of 118 children. He concluded:

> On the basis of the findings of our factor analysis and considerations like these we would not be able to support the idea that girls should begin school a year or half a year earlier than boys.

Hedges (1977) explained the discrepancy in conclusions of different authors by suggesting that dealing with different samples could vastly change results. The clinicians were apt to be studying youngsters referred to them because of previous troubles. A different slant is achieved if instead a diversified sample in a classroom is studied.

Hirst's (1970) study to identify and determine the relationship between possible readiness predictors and first and second grade achievement grew out of a frustration with age as criterion for school entrance. She tested 300 kindergarten children in nine schools which she grouped by sex, socio-economic status, age, IQ, and readiness scores. Instruments used included the WISC, Torrance's Test of Creativity, Teacher's rating, Metropolitan Readiness Test, Sociometric and Gesell Developmental. She found that the education of the child's mother, physical skills and socio-economic status was a predictor variable for second grade success. Kindergarten teacher's rating was predictive of first grade and second grade reading achievement, but age was not found to be a predictive or readiness variable at all.

King's (1955) study of 104 children makes it possible to compare qualitative and quantitative effects that chronological age at entrance has on sixth year achievement. In their sixth school year, fifty-four children who were five years, eight months to five years, eleven months when entering school were compared on the Stanford Achievement Test to fifty children who were six years, five months to six years, eight months at school entrance. The results showed that the majority of younger children were not achieving optimum academic achievement. The younger group had ten retentions as opposed to one retention in the older group, and all but three were boys. There was a significant difference ($p < .05$) in achievement between the older and younger group in the older group's favor.

Studies have been conducted to compare early school entrants to normal entrants on achievement. An early entrant is a child who has been allowed to enter school earlier than the usual entrance age. Early entrance is allowed according to varying criterions in different school systems. In the McLeod and Leong study (1972) in Saskatchewan, Canada, 126 highly gifted children were entered into school early because of their adjudged high success potential on the Revised Stanford-Binet Intelligence Scale (Form L-M). When tested later on the Vineland Social Maturity Scale and the Metropolitan Readiness Test, they found no significant differences in achievement or social adjustment between the early entrants and their classmates. However, "rejectees", students who had started early but either dropped out of school that year or were retained in kindergarten and thus were in their own age group, were found to be significantly better achievers than their classmates. Starting gifted children early only succeeded in making

them average performers instead of above average as they might have been. Studies by Birch (1954), Hamalainen (1952) and the IACE (1964) showed similar results.

Baer (1958) studied students in Kansas City to determine whether or not an early starter has the same problems as a child who waits a year to begin school. Seventy-three children with November/December birthdays were matched with seventy-three children with January/February birthdays on IQ, sex, and the school they entered. In their eleventh school year, the students were compared on size, grade level attained, number of problems marked on the SRA Youth Inventory and their Guilford-Simmerman Temperament Survey Score. The overage students were significantly different in the following areas (p. 17):

> --taller but not heavier
> --more successful in maintaining grade progression
> --had higher marks in grades one through eight
> --higher scores in achievement tests

This led Baer to conclude that while underage students may make average progress, the overage student is likely to make better school progress.

After an extensive literature review of research on entrance age and school success, Halliwell (1966) concluded:

> In view of the facts that at any grade level the early entrant is approximately seven months behind his control in achievement, that despite an extra year of schooling the early entrant is only three months superior in achievement to the regular entrant at a particular age and that approaches to acceleration have resulted in superior achievement for younger pupils both in terms of age and grade the conclusion of the present reviewer is that the advantages of postponing early entrance to first grade programs as they are presently conducted is very real. (p. 401)

The concept develops, then, that if age is to be used successfully as a criterion for school entrance, then school curriculum must change.

Today's schools, all too often, as stated earlier, expect the child to be ready for the school, not vice versa. Kost (1972) quotes Radler and Kephart in this regard:

> When Johnny or Suzie enter the first grade at the age of six (or kindergarten at the age of five) they are expected to bring into the classroom with them a background of experience and achievement, a compliment of skills...But for the child who is lacking some or all of the skills he is assumed to have, the first grade is nothing short of tragedy. (p. 16)

A kindergarten screening program in Delaware (1977-78), after observing the devastating effect of their curriculum on children who were not ready for their demands, has changed their design and the kindergarten programs. Using the KAPS, or Kindergarten Assessment Profile and Skills Survey, each preschooler is assessed in the areas of auditory perception, visual perception and motor, cognitive and language skills. No child is excluded from kindergarten on the basis of his developmental level but instead the teachers use the findings of the screening to tailor instruction to meet needs.

This mind frame is echoed by Zeitlein (1976) who stated:

> ...The assumption that 'waiting another year' will solve all problems is not often valid. These are children whose development is adequate, but whose maturation process is immature, who would not be harmed and maybe helped by another year at home, assuming that the home is supportive and stimulating, but who would profit more by beginning school in an environment that will take him at his level and begin academic growth from there. (p. 177)

In conclusion, Ammons and Goodlad (1955), after their review of literature entitled "When to Begin: Dimensions of the First Grade Entrance Age Problem", said:

> If a school is designed to expose children to a succession of carefully graded tasks beginning with the first grade, then the question of when (at what age) children are best prepared to tackle these tasks is appropriate. To the degree children are held back from beginning these tasks they will have less difficulty in accomplishing them and the school may take whatever questionable credit is forthcoming...If, however, a school is designed to assist a child with those problems his development and culture present then we had better turn our attention where it belongs: the development of a curriculum that encompasses these problems in such a way that a child beginning school at the time society sees fit to decree, will achieve maximum benefit from the environmental resources of that school. (p. 26)

When Parents and Teachers Evaluate Readiness

The relative lack of research concerning the ability of teachers and parents to serve as subjective evaluators of kindergarten readiness highlights the importance of this study. Five studies were reviewed and three of these dealt with the PAR, Preschool Attainment Record.

The earliest study of the PAR was in 1969. The PAR is an aid in estimating the developmental levels in children for their first seven years. Since the instrument calls for interview reporting to obtain information about the child's usual behavior there is inherent danger of potentially biased observations. For this reason it is best used when access to children is difficult or impossible or when a rough measure is needed for grouping. Stedman (1969) stated:

> ...It is important to note that in the use of such tests, there is a tendency for parents or reporters to inflate scores by reporting higher levels of accomplishment than the child is capable of attaining. (p. 488)

Stedman gave the PAR to the teachers and mothers of seventeen disadvantaged and socially deprived children. There were eight boys

(average chronological age 67.25 months) and nine girls (average chronological age 68.66 months). His results showed that mothers rated boys significantly higher than did teachers ($p < .05$) but there was no difference in their rating of girls. Discrepancies were found in the area of rapport, manipulation and communication.

Blair (1970) did another study to ascertain the accuracy of reporters on the PAR. Using ten middle class boys (average chronological age 55 months) and ten middle class girls (average chronological age 54.9 months) the parents and teachers were interviewed for their estimated Attainment Quotient. Again, mothers were found to rate boys significantly higher ($p < .02$) with no difference in the girls' ratings. This time discrepancies were in the areas of ideation, information and communications. Blair suggested that a possible reason for the varying areas of discrepancy could be the difference in background of the two groups. He suggested further that the significant difference found in the boys could be attributed to one or more of three factors (p. 300):

--higher expectations for boys
--acceptable behavior repertoires more limited for boys
--teacher's perceptions distorted because of behavior style

Lederman and Blair (1973) recently compared predictive level of the mother and teacher ratings on the PAR. The mothers and two teachers of fourteen girls on a Title III program were given the standardized PAR interview. The Metropolitan Readiness Test was then given to the children. Results showed that teacher's ratings were more accurate ($r = .69$ as compared to $r = .46$ for mothers). They concluded that mother's ratings were of little value to assess behavioral deficiencies in children. They further suggested that the mother's ratings were

biased by what the child had done in one exceptional instance rather than his usual behavior. Finally they stated:

> The present investigation also suggests that one major goal of a preschool program should be to assist parents to appraise more realistically their child's current capabilities. This may be accomplished with individual conferences, small group sessions with parents and teacher, and visitation by parents to their child's classroom. (p. 95)

A study in Wisconsin (1976) had very different results. In a program set up to see whether parents' reports alone could provide significant information about the likelihood of their child's mastery of basic kindergarten readiness tasks the Minnesota Child Development Inventory (MCDI) was given to the mothers of fifty-nine children. The following May each child was given the Wide Range Achievement Test (WRAT), the Lippincott Reading Readiness Test (LRRT) and the Metropolitan Readiness Test. The results showed substantial correlations in the mother's ratings and the children's achievement on the tests. The highest results were found in the Language section of the MCDI where the score accounted for 56% of the variance in the WRAT. They found similar results between the LRRT and the MCDI which they attributed to the WRAT and the LRRT being so similar in content. They concluded that 67% of the population would be within 3.4 raw score points of the post-kindergarten WRAT score.

Childers and Matusiak (1972) did research to see if a prior selection of five behavior factors corresponded to the parents' description of their own children. Teacher ratings of overall adjustment for school were also considered. Three hundred eighty-four four and five year old children were observed for hyperactivity, dependency, aggressiveness, peer adjustment and adult relationships. They were given one

of the following ratings:

1 - should not have entered kindergarten
2 - probably will need two years in kindergarten
3 - below average but to be advanced to first grade
4 - average performance in kindergarten
5 - above average in kindergarten
6 - excellent prognosis for success in first grade and/or is ready to learn to read

The Metropolitan Achievement Test was then given at the end of the year. Teacher rating of overall performance produced correlations of statistically significant magnitude ($p < .01$). None of the five parent rating variables was correlated significantly with measures of either first grade or kindergarten achievement. Of the five variables, hyperactivity, dependency and aggressiveness were insignificantly related to first grade achievement while adjustment and adult relationships were significantly related. In their discussion, Childers and Matusiak concluded that the teacher's impressions of a child's potential in school is influenced most by her impression of the child's social effectiveness.

In conclusion, this limited amount of research suggests a need to look further into the relation between parent and teacher ratings. Research shows teachers to be fairly accurate assessors of children's readiness for school and possible future achievement. However, studies relating to the parents' ability or lack of ability to assess readiness and teachers' abilities in relation to tests are limited.

Summary

In this chapter school readiness and how it should be determined has been discussed. Readiness was found to be commonly considered to be the match between what a child will be asked to do in school and

what he is able to do (Paradis and Peterson, 1975). Mental age, IQ, sex, physiological development and perceptual-conceptual development have all at one time or another been used to determine school readiness. Social behavior (Flynn, 1975) and self-concept (Vincent et al., 1976) have been studied in depth with no one component universally agreed upon. However, a certain level of ability to differentiate and analyze new situations on the basis of previously learned experiences are the most popular criteria among researchers.

Chronological age is the most commonly used criterion by school systems to determine school starting date. Researchers and school administrators cannot, however, agree on what is the most appropriate age. Research supports not only differing ages but even one age for girls to start school and another age for boys (Ames and Chase, 1974). Pauley (1951) and Pullen (1972) both cite research to agree with separate entrance ages for boys and girls but Braga (1971) and Brenner (1959) disagreed, stating that there is not sufficient evidence to justify different entrance ages.

King (1955) studied 104 children and found that children who were six years, five months to six years, eight months at school entrance had achieved significantly better school performance in sixth grade than children who were five years, eight months to five years, eleven months. Early entrants to school were found by McLeod and Leong (1972) to have average performance records although they were admitted early because of their high performance potential. Baer (1958) reports similar results. All authors agree that if age is used to determine school entrance, than curriculums must encompass and allow for a wide spectrum of readiness levels.

The ability of parents and teachers to evaluate readiness in children is poorly researched and includes many avenues for further exploration. There is slight evidence that teachers are good predictors of school readiness and future school achievement. But there is conflicting research on the parent as a readiness predictor and much more research needs to be done on how parents and teachers compare with readiness test results.

CHAPTER III

DESIGN OF THE STUDY

This chapter is comprised of four areas: description of sample, selection and description of instruments, listing of testable hypotheses and data analysis procedures.

The Sample

The study took place in a small town (population under 3500) in southeastern Michigan. The community has grown in the last ten years from a quiet, rural farm town to a bursting, so-called "bedroom community" for workers in Detroit and their families. The sudden growth of the area has been attributed to a large extent to "white flight" of suburban Detroiters who do not wish their children bused and are drawn to the area's many lakes and recreational properties. Tightly controlled building and zoning codes are limiting who can afford to move there, however. There is very little industry. The community is largely white, middle class with the average new-house price running around $65,000. The shift seems to be from mostly farmers to mostly salaried or hourly employees, and the school officials watch with interest to see what difference this will make in school issues. The 1977 bond issue and the 1978 millage, part of which was needed to build

and equip a new elementary school, both passed easily. However, a millage in June of 1979, which was needed to staff that school, was defeated.

The high school is a Class B school but will soon be re-evaluated as a Class A school. The school system includes one high school, one middle school and three elementary schools. The fourth elementary was expected, prior to the millage defeat, to open in September of 1979. Because of overcrowding in the elementary schools, all but two of the kindergartens have been forced to move into available classrooms in the middle school building for the last two years. The possible effect of this two year occupancy has not been studied. In addition to the three kindergarten classrooms in the middle school the school system operates two more kindergartens in an old two room schoolhouse in the country.

The average size for the kindergartens is twenty-five students giving a population of approximately 250 kindergartners for the school system. Because of the interest in the high risk kindergartner with an autumn birthday for this project, forty-two children were selected for the study. These forty-two fulfilled the sample criterion of being between four years, eleven months and four years, nine months as of September of 1978. A permission request letter (Appendix A) was sent through the mail to the parents of these forty-two children. A reminder note (Appendix B) went home from school with children whose parents had not responded. If no response had been received to the two notes, the parent was called by telephone to encourage participation. Thirty-three responses were received. Only two responses were negative.

One child contracted chicken pox the week of testing and had to be dropped from the study leaving a sample of thirty children - eleven boys and nineteen girls.

Readiness Evaluation Instruments

Two instruments were used to test readiness. The first was to establish a readiness score for the child and the second was to guide the parents and teachers in their evaluation of the child. The two instruments were the Anton Brenner Gestalt Test of School Readiness and the Ready or Not? Checklist.

The Anton Brenner Developmental Gestalt Test of School Readiness - BGT (Brenner, 1964)

This instrument was used to evaluate the child's perceptual development. There are five tasks involved which are copying of ten dots, copying of a sentence, draw-a-man, number producing ability activity, and number recognition activity. Three to eight minutes are required to administer the test. When used in Detroit area schools, the scores correlated well with the following tests (r factors following instrument names): Sangren Information Test (.82), Pitner-Cunningham Primary Mental Ability Test (.52), Metropolitan Readiness Test (.72), and Goodenough Draw-A-Man Test (.40). The scores also correlated at .81 with teacher ratings.

High correlation with other tests was a major factor considered in choosing the BGT. Other reasons included:

1. Ease of administration - the test takes very little time to administer. Professionals are not needed for administration but instead trained volunteers may be used.

2. Appropriateness - the test does not measure home influences, motivation, personal enhancing or conflicting home or group factors which might have been objectionable for the families involved. It is largely non-verbal and multidimensional in scope.
3. Standardization - the test has been standardized and scores can be correlated with the parent/teacher evaluations.

Administration Format of the BGT

During Thursday of the ninth week of school the children were taken from the classroom to a quiet location to be given the BGT. A trained assistant and the project coordinator did all the testing in one day with the absentees tested on Friday. All thirty of the sample children were tested in those two days.

Ready or Not? Readiness Checklist (Austin and Lafferty, 1968)

Ready or Not? is a checklist of developmental skill levels covering growth and age, general activity related to growth, practical skills, remembering, understanding, general knowledge and attitudes and interests. It is for children four to six years old and takes fifteen to thirty minutes to complete. Three instruments were used by Austin and Lafferty in the development of the checklist. The Stanford-Binet Intelligence Scale, Form L-M Third Revisions (Terman and Merrill, 1960) provided mental age and IQ data. The Metropolitan Readiness Test, Form R and S (Mildreth and Griffiths, 1950) provided reading readiness scores, number readiness scores and total readiness scores. The Cassel Child Behavior Rating Scale (Cassel, 1962) provided teacher ratings for self-adjustment scores, social adjustment scores and school adjustment

scores. The results showed that the Ready or Not? Checklist correlated well with the Wide Range Achievement Test (Jastak and Bijou, 1946; Jasket and Jasket, 1965) for children after first and second grade.

Other reasons for choosing the Ready or Not? Checklist included:

1. Ease of administration - the test was meant for use by parents and teachers. It does not require training to administer and takes a relatively short amount of time to complete.
2. Subjectivity - it can be used as a recall test for parents and teachers. The checklist was not given to the child as a test but rather to find the mother's and teacher's opinion of the child's level and skills. In most cases the child was not present.
3. Standardization - the test has been standardized and includes approximate intervals for determining readiness level. These scores can be correlated with the scores of the objective BGT.
4. Appropriateness - completion of the Checklist reveals information concerning developmental spacial perception and the child's ability to analyze, discriminate and differentiate learned information. The checklist does not include questions concerning affective, personal information such as family income, child's IQ or similar information. This was important in making the checklist acceptable to the families involved and the school system's administration.

Administration Format of Ready or Not? Checklist

During the tenth week of school, conferences were held between parents and teachers to discuss the kindergartner's progress and performance in the first nine weeks. The teachers filled out the

checklists on the two evenings preceding the conferences. The mothers (no fathers chose to take part in the conferences) were asked to come to their parent conference fifteen minutes early. During this time interlude, prior to talking to the teacher, the mother filled out the checklist to the best of her recollection. All of the mothers answered each statement on the checklist. Although the teachers could not be sure of the answer to question #39 - "Do you have books, magazines and newspapers in your home that your child looks at?" - because of the area's socio-economic level, it was assumed that this question could be answered "Yes". (All of the mothers did check "Yes" in response to question #39.)

Testable Hypotheses

The following hypotheses were tested in this study:

H_1 - Null hypothesis: No difference will be found in readiness scores as evaluated by parents and teachers of "high risk" kindergartners.

Symbolically:

$$H_0: \mu_p = \mu_t$$
$$H_1: \mu_p \neq \mu_t$$

where μ_p = parent score mean

μ_t = teacher score mean

H_2 - Null hypothesis: The correlation coefficient for the parents' scores and the children's readiness score will not be different from zero.

Symbolically:

$$H_0: \rho_{pc} = 0$$
$$H_1: \rho_{pc} \neq 0$$

where ρ_{pc} = population coefficient for parent evaluations and children's BGT readiness scores.

H_3 - Null hypothesis: The correlation coefficient for the teachers' scores and the children's readiness scores will not be different from zero.

Symbolically:

$$H_0: \rho_{tc} = 0$$
$$H_1: \rho_{tc} \neq 0$$

where ρ_{tc} = population coefficient for teacher evaluations and BGT readiness score.

H_4 - Null hypothesis: No difference will be found between the population correlation coefficient of parents' scores and children's BGT readiness scores and the population correlation coefficient of teachers' scores and children's BGT readiness scores.

Symbolically:

$$H_0: \rho_{tc} = \rho_{pc}$$
$$H_1: \rho_{tc} \neq \rho_{pc}$$

where ρ_{pc} = parent correlation coefficient

ρ_{tc} = teacher correlation coefficient

H_5 - Null hypothesis: No difference will be found between the mean score of readiness as evaluated by mothers of boys and the mean score of readiness of girls as evaluated by their mothers.

Symbolically:

$$H_0: \mu_{pb} = \mu_{pg}$$
$$H_1: \mu_{pb} \neq \mu_{pg}$$

where μ_{pb} = boys' mean score evaluated by parent

μ_{pg} = girls' mean score evaluated by parent

Data Analysis

The data obtained from the sample subjects on both instruments were coded, key punched on computer cards, and verified with the aid of a staff member of the Office of Research Consultation (ORC) at Michigan State University. The computer program used for analyzing the data was the Northwestern University Statistical Package for the Social Sciences (SPSS). The inferential statistical tests used were a two dependent variable t-test, the Pearson Product Moment Correlation Coefficient and a two independent variable t-test.

The statistical procedures were used to test the difference in the teachers and parent scores with respect to Hypothesis 1, the correlation of scores with respect to Hypotheses 2 and 3 and the difference between parents of male and female children with respect to Hypothesis 5. In addition, to test if the population correlation between teacher and child was greater than the population correlation between parent and child the Fisher Z-transformation was used (Appendix C). This statistical test was used to strengthen the relative intensity of relationship between the two factors as determined by the Pearson Product Moment Correlation.

Summary

After obtaining the sample names the Anton Brenner Developmental Test of School Readiness was given to the thirty children to obtain a readiness score for each child. The parents and teachers then filled out the Ready or Not? Checklist to indicate their opinion of the child's readiness level. Using a two dependent variable t-test, the Pearson

Product Moment Correlation Coefficient, a two independent variable t-test and the Fisher Z-transformation the results were then analyzed.

CHAPTER IV

ANALYSIS OF RESULTS

In this chapter the examination and analysis of the data are presented. The hypotheses are examined in the same order as they were tested. The data in Appendix D were used to test all five hypotheses.

Hypothesis Testing

The data from Table 4.1 were used to test Hypothesis 1. H_1: No difference will be found in readiness scores as evaluated by parents and teachers of "high risk" kindergartners.

Table 4.1. Results of two dependent t-test.

	Mean	S.D.	S.E.	t-value	d.f.	P
Parent Score	37.3548	7.432	1.333	5.96	30	.000
Teacher Score	29.8710	8.936	1.605			

Using the mean scores for the Parent's checklist and the Teacher's checklist a two dependent variable t-test was run. The t-value score of 5.96 with a probability .000 was significant at $p < .05$. H_1 was rejected.

The data from Table 4.2 were used to test H_2, H_3 and H_4.

Table 4.2. Pearson Product Moment Correlation Coefficients.

	Children's Scores
Parents' Score	.1002 (30) S = .299
Teachers' Score	.5796 (30) S = .001

H_2: The correlation coefficient for the parents' scores and the children's readiness scores will not be different from zero.

Using $p > .05$ the significant value for testing would be S = .299. The parents' correlation coefficient was .1002 for the child's BGT score and the Parents' Ready or Not? Checklist score. .1002 is not significant and therefore H_2 cannot be rejected.

H_3: The correlation coefficient for the teachers' scores and the children's readiness scores will not be different from zero.

Again using $p > .05$ the significant value for comparison of the children's BGT and the teachers' Ready or Not? Checklist would be S = .001. The correlation coefficient of .5796 is significant; therefore, the null hypothesis for H_3 can be rejected.

H_4: No difference will be found between the population correlation for parent scores and children's actual readiness scores and population correlation of teachers' scores and children's actual readiness scores.

Because H_2 was not rejected and H_3 was rejected, some assumptions can be made concerning the relationship of the two correlations. To strengthen this relative intensity the Fisher Z-transformation (Appendix C) was used to compare the two population correlation coefficients. With $p > .05$ the significant value to reject would be $X = 1.65$. The X score from the Fisher Z-transformation, 2.046, was significant and therefore the hypothesis was rejected.

The data in Table 4.3 were used to test H_5.

Table 4.3. Results of two independent variable t-test.

	Mean	S.D.	S.E.	t-value	d.f.	P
Boys	37.4545	3.142	.947	-1.84	28	.076
Girls	39.2632	2.232	.512			

H_5: No difference will be found between the mean score of readiness as evaluated by mothers of boys and the mean score of readiness of girls as evaluated by their mothers.

The results of the two independent variable t-test on the parent scores for girls and boys, .076, shows the sex of the child to be not significant at $p < .05$ level. H_5 cannot be rejected.

Summary

On the basis of analysis of data hypotheses 1, 3 and 4 can be rejected. Hypotheses 2 and 5 cannot be rejected. The significance of these results are discussed in the next chapter.

CHAPTER V

SUMMARY AND CONCLUSIONS

This chapter presents a summary of the study, the conclusions and discussion of the implications of the results and recommendations for possible action and further study.

Summary

The purpose of this study was to give some indication of whose subjective assessment of a child's readiness to start school is more likely to agree with scores of a readiness test, the mother of that child or the child's kindergarten teacher. The study also was to indicate numerical differences in the evaluative scores by the mother and teacher. Finally, the possible differences in the scores of mothers of boys and the mothers of girls were explored.

Taking a developmental approach, the level of school readiness was seen as crucial to the child's success for the rest of his academic career and thus of import in kindergarten. As the child with an autumn birthday is younger and, therefore, possibly further behind in development than his January birthday peer, it was the September, October and November birthday age group that was focused on for the testing.

The Anton Brenner Developmental Gestalt Test of School Readiness (BGT) was used during the ninth week of school to indicate the readiness score for thirty autumn birthday children. The Ready or Not? Checklist

(Austin and Lafferty, 1968) was used as a structure for ascertaining the parent's and teacher's subjective opinion of the child's readiness level. Using a two dependent variable t-test the mean scores of parents and teachers were compared. The Pearson Product Moment Correlation was used to determine correlation coefficients for the parents and the teachers and these coefficients were analyzed through the use of the Fisher Z-transformation (Appendix C). Finally, a two independent variable t-test was used to compare the mean score for the mothers of boys and the mean score for the mothers of girls. The level of significance was set at .05 for all the tests.

The two dependent variable t-test showed the parents to be significantly higher evaluators of school readiness than the teachers. That is, their mean score was 7.5 points higher than the teachers' mean score.

The Pearson Product Moment Correlation revealed the teachers to have a significant correlation with the children's readiness scores on the Anton Brenner Test. The mothers were not shown to have a significant correlation with the children's scores. The Fisher Z-transformation (Appendix C) showed these correlation coefficients to be significantly different. But the two independent variable t-test did not indicate a significant difference in the readiness evaluation score of mothers of boys and mothers of girls.

Conclusions and Discussion

This discussion takes place in the same order as the hypotheses have been presented throughout the study with a general discussion of the study as a whole at the end.

The relationship between the parents' score and the teachers' score for the child's readiness level was of concern in Hypothesis 1. As discussed in the review of the literature, regardless of developmental level, readiness level, or school curriculum a child has success in school only when there is a match between what s/he is asked to do and what s/he is able to do. There are, therefore, two components involved that can be changed if the child is not successful in school. Either the teacher must make different demands on the child or the child's abilities must change. In this study the children as a group did not meet the five teachers' basic criterion for readiness to perform at a successful level for their classrooms. Their mean score of 29.8 on the Ready or Not? Checklist translates to a state of readiness on the standardization tables labeled "Readiness Doubtful". These were the five people who would determine what the children needed to do for success in kindergarten and they felt as a group they were not ready to perform that way. On the other hand, the parents' score of 37.35 translates to a state of readiness labeled "Readiness Very Probable" on the standardization tables. The parents felt the group was ready for kindergarten expectations. Understanding this difference requires a look into the orientation of each group.

Stedman (1960) states, in discussing the Preschool Attainment Record (PAR), a subjective evaluative device, that "there is a tendency for parents or reporters to inflate scores by reporting higher levels of accomplishment than the child is capable of attaining" (p. 45). He considers such inflation inherent to parental reporting and considers the statement so self-evident as to not require further explanation or discussion. This study seems to bear witness to that phenomenon.

Studies by Lederman and Blair (1973) with the PAR and the Metropolitan Readiness Test suggested that mother's ratings were biased by what the child had done in one exceptional instance rather than his/her usual behavior. This could help explain score differences in this study. Successful school performance depends not merely on a child's ability to recognize and name correctly the letter "A" one time but to be able to do it every time s/he is asked. The mothers, in rating their children, may not have taken that difference into account.

Boszormenji's (1973) theory must be reexamined in light of the findings of this study. His belief of learning taking place only when the child can transfer the act of "giving" from his parent to his teacher would suggest that perhaps the children in the study learned and performed differently at home with the nurturing parent than at school with the still somewhat unfamiliar teacher. The mother has seen how her child learns a new task under her guidance and assumes that that ability is being transformed to the school setting. The teacher has had only frustrating failures in teaching a new task and has not observed the child in a successful learning situation. She, then, labels the child as not ready to learn.

The relative accuracy of the parents and the teacher as predictors of the child's readiness was of concern in H_2, H_3 and H_4. According to this study's results, the teachers were accurately predicting readiness as measured against the readiness score of the BGT. The parents were not accurate reporters of readiness. Brenner's test reflects his orientation that perceptual-conceptual development is a principal factor in readiness for school and that growth, development and learning, all three, not any one separately, take place through

interaction between an individual and his/her environment. Again, because the parent has observed this process for five years her perception may be colored differently when approaching academic experiences for the child. The BGT correlates well with other readiness tests (see discussion of instruments in Chapter III) and is, therefore, accepted as a true indicator of readiness. So the parents' poor correlation coefficient might best be explained by their unfamiliarity with kindergarten expectations and other kindergartners' abilities. This would support Blair's (1970) research. He attributed discrepancies in the areas of ideation, information and communications to the difference in background of the two groups. Most parents have had close contact with at most a handful of four and five year old children and rarely at the same time so they could not compare developmental level. The teachers in this study had many years of experience with kindergarten and/or preschool children and had seen hundreds of four and five year old children, usually in large groups, making comparisons easy. Their curriculums are presumably based on the average ability and readiness level of the children they have observed over the years. It is much easier for teachers to make an accurate assessment of how well a child will succeed, i.e., his readiness level, in the classroom than for the mothers of limited background. The results of this study support all the research found and reported in Chapter II except the study done in Wisconsin (1976). In that study the parents were found to have good correlation (parents' scores accounted for 56% of the variance on the WRAT) with the children's achievement on readiness tests. One explanation for the variance in results could be the more extensive training given the parents in that study in an attempt to

make them accurate reporters of readiness. Because the scores were used for group placement of the children in kindergarten situations the parents were carefully briefed on what information was needed and the criterion for reporting. In making them more aware of the requirements of readiness the parents were apparently better clued as to the criterion that the kindergarten teachers used.

Hypothesis 5 was concerned with the relationship between the evaluation of readiness level by the mothers of boys and mothers of girls. This study did not support other research in the area of boys and girls readiness levels as evaluated by their parents. Stedman (1969) and Blair (1970) both found boys to be rated higher than girls. The findings of this study did not agree with their research. This discrepancy in findings would indicate a need for further study in this area.

Overall the results of this study revealed that teachers are better predictors of kindergarten readiness than were mothers of those kindergartners. While this is attributable to many factors, other research suggests that level of experience is a very important factor. Teachers are the formulators of the curriculum. They have more experience with kindergarten age children, having seen and worked with hundreds. Therefore, the two components of readiness and success, that the child be able to do what s/he is asked to do, make the teacher the more accurate judge of readiness level. The implications of this project are important to parents. Whether a discussion with the teacher involves considering retention, stopping school and waiting for the next year or just a warning of the troubles the child is likely to encounter in the coming years, the parents might keep in mind that

the kindergarten teachers in this study and in several others were accurate predictors of readiness; better indeed than the parents. While it cannot be argued in most cases that no one knows the child better than his mother in social or emotional terms, the teacher may have the edge from her greater experience when it comes to academic success.

The study has implications for teachers as well. While it is not necessary to unleash a generation of supposedly infallible experts upon unsuspecting parents of this country, this study should give the hesitant but experienced teacher confidence in her ability to deal with the situation accordingly. However, in view of the divergent opinions of what school readiness means and the fact that a number of the children in the five classrooms in this study were considered "not ready" for kindergarten, perhaps the emphasis should be placed not on more retentions of these children or in holding them back from starting school for another year. Instead, thought should be directed to changing curriculums in kindergarten to accommodate youngsters who qualify chronologically to begin school regardless of readiness level. This would be in keeping with research done in Delaware (1977) where officials sought to break the devastating and long-term effect their curriculums were having on children who were not ready for school. Rather than changing entrance requirements they completely overhauled their screening design, using it for skill group placement rather than to reject kindergartners, and have seen positive results in later years. Thought in this direction may be helpful since Michigan lawmakers show no inclination to shift from chronological age as the school entrance determiner.

Implications for Further Research

Further research in this area might best be served by revising the size and composition of the sample. By limiting the group to autumn birthday children the sample was necessarily smaller than preferred. This study could be done with no limitation placed on birthday composition. The entire kindergarten population could be studied in much the same way as this project was conducted. Analysis could then take place comparing groups according to birthday or other variables.

A larger sample would offer another avenue of research. This sample included five teachers. Had their entire class been included, analysis could have been done to determine if there existed any difference in the teachers themselves as evaluators; i.e., whether the most experienced teacher was a better judge of readiness than the least experienced. As it was, the small size of this sample kept comparisons of the teachers' abilities from being feasible.

A major group was missing from this sample. The group of children who had autumn birthdays but whose parents had kept them out of school was not available. It would have been fascinating and perhaps highly significant to discover the difference in subjective evaluation of readiness level by the parents of these children as compared to the autumn birthday children who did start school. The reasons given by the eleven parents who refused or simply did not respond could shed light on that group as well.

The reliability of the present data might have been increased by securing the same information from another source. One Ready or Not? Checklist was distributed to each family and all were completed by the mother of the child. The addition of a second checklist would increase

the reliability of the data and most likely secure much needed data on the father's subjective evaluation of the child's readiness for school. Reliability could also have been increased by dropping the score of child #28 whose BGT score of eight may have skewed the results.

All of the teachers in this study were experienced teachers. The least experienced had taught seven years of Head Start and two years of kindergarten. The most experienced had taught kindergarten for twenty-seven years. All but one was also a mother. Different results might be obtained by repeating the study with less experienced teachers.

While this study does not dwell on the different factors involved in readiness, it does begin to reveal the importance of considering social and intellectual development as separate but equally important factors in evaluating school readiness. Lack of development in these areas may not be best served by the child staying home for another year, but kindergarten may not be the answer either. The alternatives of a play group, nursery school, or a library program, where available, would give the child increased and diverse stimulation for both social and intellectual growth without subjecting the youngster to the additional demands of the school setting. The home or public school should not be seen as the only alternatives when other resources are available. Future research might delve more deeply into this area in considering readiness.

Finally, one of the major limitations of the review of the literature for this project, and one which underscores the importance of the study, was the lack of previous work done in this area. Most of the studies found have used the Preschool Attainment Record so even the available information was limited. Future research might focus on

using other available recording methods or indeed on developing an original and more accurate evaluation instrument.

APPENDICES

APPENDIX A

PRELIMINARY PERMISSION LETTER TO PARENTS

APPENDIX A

PRELIMINARY PERMISSION LETTER TO PARENTS

October 19, 1978

Dear _____,

Because your child has an autumn (September, October or November) birthday he/she is one of the youngest children in his/her class. Younger children often have special needs in school settings. While I teach first grade at Village Elementary School here in Pinckney, for my Masters work at Michigan State University I am interested in studying how parents and teachers view the needs and readiness of these younger kindergartners. I hope that the results of this study will help both kindergarten and first grade teachers to plan for meeting the needs of the "autumn babies" in their rooms.

If you would be willing to help in this study I will contact you, asking that you come ten minutes early to your parent/teacher conferences in November. During this time you would fill out a checklist of your child's skills such as copying figures, letters, etc. Your child's teacher will fill out the same checklist and during the week prior to conferences your child will be given a short readiness test much like the one given at Kindergarten Round-up.

I sincerely hope that you will give serious consideration to taking part in this study. While neither your name nor your child's name will be used in conducting or reporting this study and your individual answers will be kept confidential, the results of the study may help not only your child but future children with autumn birthdays. Furthermore, I would be happy to furnish a short summary of the study results to you for your own information.

If you have any questions about my plans, please feel free to call me before 9:00 or after 3:30 at Village Elementary School, 878-6423. I am happy to talk further about this. Regardless of your decision, please let me thank you in advance for your time and consideration.

Sincerely,

Peggy S. Dunn
First Grade Teacher

Please return to your child's kindergarten teacher before Oct. 25.

____I would be willing to participate in this study with my child.

____I would like to learn more about this study.

____I would rather not be a part of this study.

Signature_____

Phone # _____

____Please send me a short summary of the study results.

APPENDIX B

REMINDER LETTER TO PARENTS

APPENDIX B

REMINDER LETTER TO PARENTS

October 25, 1978

Dear _____,

This is just a reminder that I need your reply to my study proposal on Monday, October 25. I hope that you will make every effort to return the slip that day. If you have lost the original note, then please return this one instead.

Your time and effort are appreciated.

Sincerely,

Peggy S. Dunn

____I would be willing to participate in this study with my child.

____I would like to learn more about this study.

____I would rather not be a part of this study.

Signature _____

Phone # _____

___Please send me a short summary of the study results.

APPENDIX C

FISHER Z-TRANSFORMATION

APPENDIX C

FISHER Z-TRANSFORMATION

$$X = \frac{Z'_1 - Z'_2}{\sqrt{\frac{1}{n_1-3} + \frac{1}{n_2-3}}} \sim Z(0,1)$$

From: Statistical Methods in Research, Palmer O. Johnson, 1949, p. 53.

APPENDIX D

TEST DATA

APPENDIX D

TEST DATA

Sex & I.D. #	BGT	Parent Check-list	Teacher Check-list	Sex & I.D. #	BGT	Parent Check-list	Teacher Check-list
1M	62	40	40	16M	38	37	30
2F	46	43	38	17F	20	35	14
3F	46	42	32	18F	32	42	28
4F	46	39	31	19F	29	41	18
5F	52	41	36	20M	43	32	33
6F	66	37	41	21M	50	33	27
7F	57	39	22	22F	51	38	32
8F	33	42	38	23M	57	38	32
9F	50	38	21	24M	58	37	37
10M	56	39	39	25F	64	40	32
11F	48	41	33	26M	42	41	28
12M	61	42	35	27F	35	37	37
13F	22	37	24	28F	8	39	23
14M	16	35	20	29F	50	38	37
15M	40	38	36	30F	68	37	30

Ready or Not? Checklist

Number of Items Answered "Yes"	Approximate State of Readiness For School
40 to 43	Readiness Reasonably Assured
35 to 39	Readiness Very Probable
31 to 34	Readiness Questionable
26 to 30	Readiness Doubtful
25 or below	Readiness Unlikely

BGT Total Scores

Quartile	BGT Total Score Range*	Readiness Level
First	0-24	LOW
Second	25-39	AVERAGE
Median	40	AVERAGE
Third	40-54	AVERAGE
Fourth	55-80	HIGH

*For October Testing

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