DOCUMENT RESUME

ED 260 826 PS 015 296

AUTHOR Gray, Rosemarie
TITLE Criteria to Determine Entry into School: A Review of the Research.
INSTITUTION Illinois State Board of Education, Springfield, Dept. of Planning, Research and Evaluation.
PUB DATE Feb 85
NOTE 18p.; For other papers in this series, see PS 015 295-305.
PUB TYPE Information Analyses (070) -- Reports - Research/Technical (143)

EDRS PRICE MF01/PC01 Plus Postage.
DESCRIPTORS *Admission Criteria; Age Differences; Age Grade Placement; Birth Order; Early Admission; Early Experience; Enrollment Influences; Individual Differences; *Kindergarten; *Maturity (Individuals); Primary Education; *School Entrance Age; *School Readiness; Sex Differences; Social Adjustment
IDENTIFIERS *Illinois

ABSTRACT

This review of research, part of the Illinois State Board of Education's Early Childhood Education Policy Study, focuses on issues related to potential state funding for full-day kindergarten and changes in the age at which children enter kindergarten. Specifically addressed are the following issues: (1) a review of the legislative background on initial school entry, (2) research on age as a factor related to successful school entry, (3) the effect of raising the school entry age, and (4) the application of delayed school entry age to Illinois children. Since chronological age is the most administratively convenient criterion used to determine eligibility for school entry, the first section on legislative background provides a table showing the variability of cut-off dates for kindergarten entry for forty states. The second section dealing with research on age as a criterion for initial school entry argues for an acknowledgement that a child's developmental age may be different from his/her chronological age. Included in this section are discussions on delaying the child's entrance into school and on enrolling the child in school at a particular age. An extensive review of the research on entry age focuses on factors related to the prediction of initial academic success of children entering kindergarten or first grade. These factors include chronological age, sex differences, socioeconomic status, intelligence, preschool experiences, social adjustment, and birth order of children. The third section debates the issues of whether raising the age for initial school entry helps to eliminate school failure by giving younger children a chance to mature. The final section identifies resultant problems stemming from delayed school age entry for Illinois children. The paper concludes that research literature does not support the raising of school entry age. (DST)

ED260826

U.S. DEPARTMENT OF EDUCATION
NATIONAL INSTITUTE OF EDUCATION
EDUCATIONAL RESOURCES INFORMATION
CENTER (ERIC)
X This document has been reproduced as received from the person or organization originating it.
☐ Minor changes have been made to improve reproduction quality.
• Points of view or opinions stated in this document do not necessarily represent official NIE position or policy.

CRITERIA TO DETERMINE ENTRY INTO SCHOOL: A REVIEW OF THE RESEARCH

ILLINOIS STATE BOARD OF EDUCATION

"PERMISSION TO REPRODUCE THIS MATERIAL HAS BEEN GRANTED BY
Rosemarie Gray
TO THE EDUCATIONAL RESOURCES INFORMATION CENTER (ERIC)."

PS 015299

Walter W. Naumer, Jr., Chairman
State Board of Education

Ted Sanders
State Superintendent of Education

Department of Planning, Research, and Evaluation

Springfield, Illinois

February, 1985

FOREWORD

In response to the Illinois State Board of Education, staff were directed to conduct a comprehensive policy study of early childhood education. This report on criteria for school entry was prepared by Rosemarie Gray, Ph.D., Research and Statistics Section, Department of Planning, Research and Evaluation. The interpretations and conclusions expressed herein do not necessarily reflect the position or the policy of the State Board of Education.

Ted Sanders
State Superintendent of Education

TABLE OF CONTENTS

Introduction and Purpose

Interest in early childhood education has been increasing in recent years. As a result of perceived needs and unresolved issues, legislation has been introduced in the Illinois General Assembly, as well as in other states, to address funding for full-day kindergarten and changes in the age at which children enter kindergarten. To better identify, analyze, and make recommendations regarding current issues in early childhood education, the State Board of Education is conducting a comprehensive Early Childhood Education Policy Study. The purposes of this report are to review the legislative background on initial school entry, examine the research on age as a factor related to successful school entry, identify the effect of raising the school entry age, and apply this information to Illinois children.

Legislative Background on Initial School Entry

Illinois law (Article 10-20.12, Chapter 122 of the School Code of Illinois) allows a child to begin school in first grade if the age of six is reached on or before December 1 of that school year. As a matter of practice, a child may begin kindergarten if the age of five is reached by that date. Several legislative proposals have been introduced in recent sessions designed to change the cut-off date to September 1. One of the recommendations of the Illinois Commission on the Improvement of Elementary and Secondary Education is to change the month for initial school entry from December to September. This would cause children turning 5 after September 2 to enroll a year later; thus, they would enter school at an older age. Illinois law (Article 26-1, Chapter 122 of The School Code of Illinois), however, does not require that children attend school before the age of seven. Thus, parents have the option of not enrolling children who are legally eligible but whom the parents judge to be unready for school or otherwise do not wish to enroll.

McGee and Hills (1978) noted that historical data do not establish a clear, rational "right age" for school entry. They stated that formal schooling developed in response to society's social, economic, and political needs as changes occurred in the family's ability to prepare children for adult life. Different countries have set various entry ages in response to these perceived societal needs. McGee and Hills also stated that entry age in the United States was, most likely, set pragmatically, just as the school year was set to meet the needs of an agricultural society in which children helped during the growing and harvesting seasons or as the school day was set to allow time before and after school for chores.

Chronological age is the most administratively convenient criterion used to determine eligibility for school entry. It also clearly establishes when the state must provide education services to an individual. However, there is no consensus among the states as to the appropriate entry age. The month by which a child must be five to begin kindergarten varies considerably among the states, as shown in the following table. Forty states which set a specific cut-off date use seventeen different dates. Seven states allow local districts to make their own determination. (See Table 1.)

Table 1: Kindergarten Entry Eligibility in the States

Specific Date for Entering School	Number of States
On/Before Aug. 31	2
Prior to Sept. 1	1
On/Before Sept. 1	10
On/Before Sept. 10	1
On/Before Sept. 15	2
On/Before Sept. 30	5
On/Before Oct. 1	3
On/Before Oct. 15	3
On/Before Oct. 16	1
On/Before Oct. 31	1
On/Before Nov. 1	1
On/Before Nov. 15	1
On/Before Dec. 1	3
4 years 9 mo. by Sept. 1 (this equates to on/before Dec. 1)	1
On/Before Dec. 15	2
On/Before Dec. 31	1
On/Before Jan. 1	2
4 years 8 mo. by beginning school year	1
Local LEA Option	7
No Minimum Age	1
Unknown Policy	1

Source: Education Commission of the States, "State Characteristics: Kindergartens, 1984."

Perspectives on Age as a Criterion for Initial School Entry

There appears to be at least two distinct perspectives on determining when it is appropriate for children to be enrolled in kindergarten. The first perspective is to delay the entry of the child into kindergarten until the child can reasonably be expected to perform the tasks typical of kindergarten. The second perspective is to enroll the child when the child reaches a certain age and then provide the educational program which can reasonably be expected to successfully meet the child's needs. Both perspectives acknowledge that a child's developmental age may be different from the chronological age. However, the perspectives treat these differences differently. Lilian G. Katz, Director of the Early Childhood Education Clearinghouse, University of Illinois, defines developmental age as "a point in a sequence of changes from less to more mature behavior in any given realm of human functioning that may or may not be related to chronological age." Generally, a child's developmental age is described in terms of behavior most appropriate to the norm of a given age group. For example, a child's chronological age may be seven, but his or her physical development may be typical of that of most five year olds. Hence, the physical development age is considered to be five.

Delaying the Child's Entrance into School

This perspective holds that chronological age is not sufficient to determine whether a child is ready to be successful in school; hence, the enrollment of a child under the compulsory attendance age should be delayed until the child can perform certain mental, social-emotional, and physical tasks which have been determined to be typical of expectations in kindergarten. It is recognized that children who are chronologically eligible to attend school may not be developmentally ready to perform school tasks successfully. The parent of the child judged "not ready for school" is generally encouraged to delay the child's entrance into kindergarten for a year or to enroll the child in a private/nonpublicly funded preschool. One school refers to this practice as "redshirting the youngster."

The belief is expressed that children are not harmed if their enrollment is delayed, and thus, it is better to err on the side of waiting. Haines, Ames and Gillespie (1980) sum up this position:

> We would like to see girls fully 5, boys 5 1/2 before they start kindergarten; girls fully 6 and boys 6 1/2 before first grade....Children younger than this should be carefully screened to make sure that they are ready for kindergarten (or first grade) even when the law permits earlier entrance.

Entering the regular school program too young is thought by these proponents to cause problems or even school failure. It is believed that if the entry of children who are behind their cohorts in development cannot be delayed, (i.e., they have reached compulsory attendance age), then they should be placed in developmental programs. Staff at the Gesell Institute stated, "We would even go so far as to claim that fifty percent of school failures could be prevented or corrected by proper grade placement" [such as pre-kindergarten or pre-first grade] (Haines and others, 1980).

There are indications that many kindergarten teachers believe that children should be at least five before starting school and that older children will do better. Peterson and Ayabe (1982) reported that 90% of the Mesa, Arizona, kindergarten teachers surveyed expressed the belief that children should only be allowed to enter kindergarten if they were five years old by September 1. A similar belief was reflected in a report to an Illinois school board which noted that the kindergarten teachers' and administrators' concerns about the kindergarten program led to the recommendations of preschool screening and, eventually, to the policy that the age for entering school in that district be raised to five by September 1 (Crete-Monee, 1983). The assumption is that the older the child is on entrance into school, the more likely the child will be successful in performing the required tasks.

Thus, in this approach, the child must be ready for the demands of formal schooling and should be delayed in entering the school program until the child is ready. The child must accommodate to the school's expectations.

Enrolling the Child in School at a Certain Age

Advocates of this perspective believe that the school should be ready for the child, not the converse. It is assumed that a child is always ready to learn and that there are no problems if the learning environment is appropriate for the child. It is considered the role of the school to help the child to develop the skills needed for school success. Egertson (1983), a kindergarten teacher, expressed this view:

> When kindergarten was for 5-year-olds, no one worried whether children could sit still for long periods of time--the classroom was organized so they could move around and select from a wide variety of activities. No one worried whether they had long attention spans--they weren't expected to sit and listen to the teacher for long stretches...no one worried, either, whether children could count to 20, say their ABC's....It was expected that the school would teach them in good time. And no one worried about eye-hand coordination or auditory and visual memory. The materials and equipment were designed to help these emerge....Some kindergarten teachers now do not even provide a time in the day [for reading to children, although] there is a high correlation between being read to as a young child and having, later, a disposition to read.

These advocates consider developmental age to be important, but they do not believe that the solution to the problem of the developmentally delayed children (children whose developmental age is less than their chronological age) is to delay the entry of those children into school. Rather, they believe the school's role is to take children where they are and address their individual needs through appropriate programming. One early childhood director from a large school district in Illinois agreed that there are many children who are immature when they are of the legal age to enter kindergarten. However, she believes that these children should begin school so that they can be given opportunities to learn the skills that they need for school and that keeping them out would only compound the problem.

Gredler (1980) spoke to the practice of retaining in kindergarten a child who is judged unready for first grade, but his point is equally relevant for determining school-entry levels for children:

> One of my main points is that the child who is scheduled for retention does not just need time to mature...but needs an active, ongoing program that is pointed toward the specific educational problems diagnosed. If a diagnostic-prescriptive program is needed for the learning disabled child, why suspend all judgment for the unready child and say instead that he just needs another year of kindergarten.

Thus, from this perspective, children should be allowed to enter school when they are eligible and placed in programs which will address their needs. In this approach, the school accommodates to the child's needs when the child is determined eligible to receive publicly funded services.

Review of the Research

Numerous studies have been conducted on factors which are or are not associated with predicting initial academic success of children entering kindergarten or first grade. These factors have included chronological age, developmental age, birth month of children, gender, socioeconomic status, intelligence, preschool experiences, and social adjustment. Most studies use only chronological age or only one other factor; their results are questionable because of the design flaws and limitations.

Chronological Age

These studies have frequently focused on establishing or testing relationships between chronological age at initial school entry and academic achievement or successful school adjustment. The findings on the importance of chronological age are mixed. Beattie (1970) did a comprehensive review of the research studies on the effect of age on academic success. He concluded that chronological age, mental age, adjustment, sex, socioeconomic status, and intelligence were all shown to be determining factors in academic success. He cited one study which found higher achievement scores for older entrants and another study which found no differences between younger and older entrants.

Wood, Powell, and Knight (1984) found that although successful children were both chronologically and developmentally older than failing children, the difference in developmental age was significant while the difference in chronological age was not. Chronological age information did not help predict kindergarten success or failure. They concluded the "chronological age of children entering kindergarten within the range of 4 to 6 years, is unrelated to eventual success or failure."

Hedges (1977) reviewed the entry age research and reported a study which found that of 8,000 children who entered first grade before the age of six, 15% failed, whereas, of the almost 24,000 who entered after the age of six, 13.5% failed. This is a difference of 1.5%, and, apparently, 85% of the younger children were academically successful.

Gredler (1978) cited a study which found that while Swedish children start school one year later (age seven) and British children one year earlier (age five) than American children, the percentage of poor readers at the end of first grade was essentially the same for each country. Yet, the difference in mean ages for these three groups of children was two years. He also emphasized that older pupils may be said to have learned more in school than younger pupils only if it is assumed that they did not know more when they started school. Instead of comparing absolute performance, he suggested that gains should be measured from year to year. He referenced a study which compared rate of growth as an index of comparison and which found no significant difference between early-entry and late-entry boys. The rate of achievement gain was essentially the same.

After reviewing the research on chronological age, Gredler (1980) found that some studies reported younger/older age differences in first grade, but not in second grade. Hebbler (1981) also found a significant relationship between birth month and skill level at the beginning of kindergarten; however, no significant relationship was found between these factors for a similar group of children at the beginning of first grade.

Sex Differences

Sex differences have been shown to be related to academic success. Beattie (1970) cited research which found that the differences between boys and girls in achievement were as great as or greater than the differences between younger and older entrants. Gredler (1980) also noted that the differences in academic achievement between younger and older entrants often were found only for boys. Rubin (1975), however, found that while five-year-old girls were superior to boys in language and readiness skills prior to kindergarten entrance, boys experienced more positive gains during kindergarten. This indicates that readiness levels may not reflect how much a child will benefit from kindergarten, but rather that those who demonstrate lesser readiness skills may actually profit more, proportionally, than those with higher initial skills.

Socioeconomic Status

Research has demonstrated that socioeconomic status is also an important criterion related to academic success. Gredler (1978) referenced a study which found that while the differences in achievement between younger and older seven-year-old good readers ranged up to 10.7%, the socioeconomic differences ranged up to 32.3%.

Intelligence

Intelligence has also been found to be related to academic success. Beattie (1970) referenced a study which found significant relationships between intelligence test scores and academic success in all 84 school districts studied.

Preschool Experiences

Some studies have found that preschool experiences had a beneficial effect on kindergarten performance. Osterlind (1981) compared kindergarten performance for two groups of children with preschool experience and one group without such experiences. While relationships between preschool and academic achievement were not clearly established, children with preschool experience evidenced significantly greater social and emotional maturity (as measured by the Social and Emotional Maturity Index) and significantly greater conformity to successful pupil behaviors (as measured by the Pupil Behavior Inventory) than the comparison group children without preschool. Parents and teachers interviewed expressed the opinion that there were distinct differences between children with and without preschool and these differences decidedly were in favor of those children with preschool. Busch-Rossnagel and Vance (1982) cited research showing that children with day-care experience interact more with their peers and at earlier ages than children without day-care. They referenced another research study which concluded that day-care experiences enhance the social development of the child.

Studies by McKinnon (1982) and Larsen (1983) found that preschool did not appear to be as great a benefit for children of middle or upper-middle class socioeconomic status. However, Creech (1982) found that the effects of preschool may have a "sleeper" effect. The reading achievement scores of children in Durham, North Carolina schools with and without preschool experiences were compared for each grade, one through five. About 34% of the children had had preschool and 66% had not. This school system closely matched the rest of the state in its racial and socioeconomic composition. No significant differences in reading achievement were found at the first grade level. However, differences favoring the group with preschool were significant at the second, third, fourth and fifth grade levels. In addition, the significance level increased as the grade levels increased (from .05 at the second grade level to .001 at the fourth and fifth grade levels), indicating greater confidence in the possible effect at the higher grade levels.

Social Adjustment

Social adjustment is also a factor related to success in school. Some researchers and reviewers have suggested that while the younger children in a grade may do well academically, they may have more adjustment problems than children who start school at an older age. Hammond and Skipper (1962) evaluated the school adjustment of over a thousand first-grade children and concluded that chronological age alone could not be used as a criterion for first-grade readiness. Attendance in kindergarten, socioeconomic status, and reading readiness scores were also significantly correlated to adjustment.

Beattie (1970) cited a study which found more adjustment problems, speech defects and "nervous indications" for early entrants. But, he also referenced another study which found that children young for their grade scored above average in popularity and leadership.

A study in Broward County, Florida (1974) compared three groups of children: 1) one group who qualified for early entry into first grade (were six years old, had attended kindergarten, and had passed a readiness test) and who entered first grade early; 2) one group who also qualified for early entry, but whose parents elected to keep them in kindergarten; and 3) one group of first graders who scored in the upper 20% in pre-reading test scores. It was found that the early entrants did well academically but were less socially accepted by their peers than were the other two groups. This study was used to support Florida's decision to change the entry cut-off date to September 1 from December 1. Upon review of this study, it could not be determined when in the school year this early entry occurred or how long these children had attended kindergarten. No other factors were mentioned in the study as having been considered.

Month of Birth

Month of birth has also been used as a predictor of success in school. In another Florida study (Griffith, Villanueva, & Fisher, no date), researchers selected a random sample of files of students referred for psychological evaluation in a county school district and examined them for the child's age at original referral, sex, and birth month. For children in the 5- to

8-year-old age group, a significant correlation was found between having a psychological referral and month of birth. Children born in the months of November and December were more often referred. No other factors were considered.

DiPasquale, Moule, and Flewelling (1980) found that primary-age children born late in the year were significantly more likely to have had psychological referrals for academic problems in the primary grades than are children born earlier in the year. They concluded that these children were encountering more difficulties and that this "birthdate effect supports the view that some children (those born late in the year) are not ready for first-grade work." Diamond (1983) found significant correlation between children in Hawaii's special education population being classified as specific learning disabled and being born in the last quarter of the year.

In sum, the research has examined several predictors of school success. No sole criterion was found to be the best predictor.

Effect of Raising School Entry Age

The belief has been expressed that raising the age for initial school entry will help to eliminate school failure by giving younger children a chance to get older (Haines and others, 1980; Griffith and others, no date; and Crete-Monee, 1983). Rosenthal (1968) has demonstrated that "teacher expectation" may lead teachers to evaluate children's performance much as they had expected the children to perform. Gredler (1980) warned that:

> Dangers arise when society begins to accept those beliefs [that if a child is older, there are automatically fewer school problems] and act on them....Because psychological referrals reflect a difference in the child's age with younger children being referred more frequently, this is considered proof of the fact that the children are encountering maturational difficulties. I agree that the children are probably encountering more difficulties but would ask whose fault it is. Is it all due to the fact that the child's maturational scheme is unfolding more slowly, or is it possibly due to the fact that the maturation of the teachers and school psychologists [in learning how to work with these children]...is developing more slowly? One of the main difficulties the younger child meets in a North American school is the teacher's expectation that because he is younger and male he automatically is going to have difficulties in school. Teachers act on their beliefs--thus many send the younger ones to psychological services because they expect the child to have learning problems in a class frequently structured for older children.

Changing the reference group or the cut-off date to require children to be older when entering school would merely change the group which is the youngest. If teachers were to continue to act on their expectation that the younger children have problems, a new group of "younger entrants" would

become the problem group. This group would consist of those children who are born in the last three months of the 12 month span, whichever three months those may be. The following studies demonstrate that this would occur.

Illinois' cut-off date for attainment of eligible kindergarten age is December 1. An Illinois school district (Crete-Monee, 1983) found that about 45% of their students in special education self-contained classrooms had birthdays in September, October and November.

In a state where the school entry cut-off date was October 15, Uphoff (1983) compared the success of children, K-6, born from June 1 to October 15 and who did not enter school when first eligible with a like group who did. He found that children born in the summer months represented only 23% of the population, but 75% of the students who had been retained one year. He felt the data supported the practice of delaying the entry of summer-born children because they were too young for formal schooling. In a state where children had to be six by September 1 to begin school, Maddux (1983) found that an unusually large number of learning-disabled children were born during the months of May, June, July and August. In both of these studies, the "problem" groups were still the younger groups, only now they were composed of children born in May through August.

Studies which compare achievement of early and late entrants usually compare teacher grades in the same class or on the same standardized test with the same grade-level normative scale. It is unreasonable to expect the younger children to be equal in maturity and previous experience to those almost a full year older. It is also unreasonable to expect these older children not to score higher on the same test as younger children, especially when the comparison groups have been matched on intelligence scores. Raising the entry age would result in higher achievement scores for those children who would be delayed a year in starting school, but it would also result in a new group of children who would be younger and score at the lower end of the class scale.

As long as schools admit one class a year, there will always be at least an 11 month 30 day difference in the ages of children in the beginning class, from those who "just missed" the previous year to those who "just made" the cut-off date. Thus, requiring children to be older before starting to school is not an effective solution to the problems experienced by some of the younger children in a class. There will always be a group of children who are younger.

Application to Illinois

Although Illinois law mandates special education services to eligible children at age three, Illinois State Board of Education data indicate that many children, especially minority children, who are in need of such services are not being served until they enter school (Illinois State Board of Education, 1982). Delaying school entry of children born in the months of September through November could further delay handicapped children from being identified and served.

In Illinois, immunizations and health examinations must be completed by the child's second month in school. Vision and hearing screenings are conducted during the kindergarten year. This may be the first time many children have such health assessments. Problems which are potentially educationally limiting may be identified at this time. Pirozzolo and Campanella (1981) cited research indicating that approximately 8.5% of all preschool children have some speech and language disorders and that 70% of this group will continue to show impairment at age 9. Delaying the entry of these children for one year would further delay their identification and subsequent receipt of services.

Advocates of delayed entry for children born in September, October, and November comment that a "few months delay to give time to mature" cannot hurt a child. In reality, these few months equate to nine to twelve months (more if "summer-born" children are held back a year.) Up to a year's delay for a child attending a good preschool and/or having other enriching experiences might not be of critical importance. However, for special needs children (those from environments which are deficient in the socialization and cognitive experiences of more affluent children, children with limited-English-speaking parents, and handicapped children), a year's delay would further increase the discrepancy between them and their more advantaged peers.

Conclusions

Chronological age is used as a criterion for school entry, even though it is of limited educational value, because it clearly establishes when the state must provide education services and is administratively convenient. Among children of the same chronological age, developmental and mental age can vary considerably. Even within the individual child, the rates for intellectual, emotional, social, and physical development are variable and uneven.

Most of the research literature found somewhat higher mean achievement levels for older children than for younger children in the early grades, but also found, at least, satisfactory achievement for the majority of younger children. Studies which compare achievement of early and late entrants usually use teacher grades in the same class or on the same standardized test with the same grade-level normative scale. It is unreasonable to expect the younger children to be equal in maturity and previous experience to those almost a full year older. It is also unreasonable to expect these older children not to score higher on the same test as younger children, especially when the comparison groups have been matched on intelligence scores.

Illinois State Board of Education data indicate that many children, especially minority children, who are in need of specialized educational services are not being served until they enter school, even though they are eligible for services at age 3. The research evidence demonstrates the desirability of early educational services to certain handicapped children.

For children who are not privileged to have experiences which would help them to acquire the skills needed for school success, it would be detrimental to delay their entry into school. Such a delay would certainly

not help them to acquire needed skills, but would, instead, result in a further discrepancy between their experiences and those of more advantaged children. Limited-English-speaking children would not be likely to acquire English language skills by waiting a year to begin school.

The research literature does not support the position of raising school-entry age. Since parents currently have the option of not entering in school children who they feel are not yet ready, it is not necessary to raise the entry age to benefit these children. However, arbitrarily raising the entry age would discriminate against those children who are ready for school and penalize those children who would be better served by attending a school program which meets their individual educational needs.

Selected References

Beattie, C. Entrance Age to Kindergarten and First Grade: Its Effect on Cognitive and Affective Development of Students. Urbana, Illinois: ERIC ED133050, 1970.

Broward County School Board. A Study of Early Entry into First Grade: 1973-74. Fort Lauderdale, Florida: Broward County School Board, 1974.

Busch-Rossnagel, N.A., & Vance, A. K. "The Impact of the Schools on Social and Emotional Development." In B. Wolman (Ed.), Handbook of Developmental Psychology. Englewood Cliffs, New Jersey: Prentice-Hall, 1982, 452-470.

California State Department of Education. The Efficacy and Cost Effectiveness of Early Education for Handicapped Infants and Preschool Children. Sacramento, 1982.

Carle, C. N. & Grant, C. J. Contoocook Valley School District Developmental Placement Study. Peterborough, New Hampshire: Contoocook Valley School District, 1984.

Creech, C. W. The Relationship between Preschool Experiences and Reading Achievement: A Five-Year Follow-up Study. Durham, North Carolina: North Carolina Central University, Department of Education, 1982. (ERIC Document Reproduction Service No. ED 224 601)

Crete-Monee Board of Education. Information Report 6-F: The Kindergarten Report. Crete, Illinois: Unpublished paper, February, 1983.

Diamond, G. H. "The Birthdate Effect--A Maturational Effect?" Journal of Learning Disabilities 16, 3 (1983): 161-164.

DiPasquale, G. W.; Moule, A. D.; & Flewelling, R. W. "The Birthdate Effect." Journal of Learning Disabilities 13, 5 (1980): 4-8.

Education Commission of the States. "State Characteristics: Kindergartens." Clearinghouse Notes. Denver, Colorado: Education Commission of the States, 1984.

Egertson, H. "Kindergarten: It Should Be (But Isn't) for Five-Year-Olds." Speaking for Children (Jan/Feb. 1983).

Gredler, G. R. "A Look at Some Important Factors in Assessing Readiness for School." Journal of Learning Disabilities 11, 5 (1978).

Gredler, G. R. "The Birthdate Effect: Fact or Artifact?" Journal of Learning Disabilities 13, 5 (1980): 9-12.

Griffith, R. B.; Villanueva, L. E., & Fisher, J. R. The Relationship Between Birth Month and the Frequency of Psychological Evaluation. Unpublished paper, No date.

Haines, J.; Ames, L. B.; and Gillespie, C. The Gesell Preschool Test Manual. Lumberville, Pennsylvania: Modern Learning Press, 1980.

Hammond, S. L., & Skipper, D. S. "Factors Involved in the Adjustment of Children Entering First Grade." The Journal of Educational Research, 56, 2 (1952): 89-95.

Hebbler, K. M. Do Older Kindergarteners Have an Advantage: The Importance of Month of Birth When Starting School. Paper presented at the Annual Meeting of the American Educational Research Association, Los Angeles, California, April 1981.

Hedges, W. D. When Should Parents Delay Entry of Their Child into the First Grade? Gainsville, Florida: Florida Educational Research and Development Council, Inc., 1976.

Hedges, W. D. At What Age Should Children Enter First Grade? Ann Arbor, Michigan: University Microfilms International, 1977.

Hodges, W. and Cooper, M. "Head Start and Follow Through: Influences on Intellectual Development." The Journal of Special Education 15, 2, (1981): 221-238.

Ilg, F. L., & Ames, L. B. School Readiness: Behavior Tests Used at the Gesell Institute. New York: Harper & Row, 1965.

Illinois State Board of Education. Expanding Services to Birth: Supplementary Report to Special Education Mandates: A Preliminary Report. Springfield: Illinois State Board of Education, 1982.

Katz, Lilian G. (Private Conversation, February, 1985)

Larsen, J. M. Effects of Preschool on Educationally Advantaged Children: Implication for Program Planning. Provo, Utah: Brigham Young University, Department of Family Sciences, 1983. (ERIC Document Reproduction Service No. ED 241 158)

Maddux, C. D. "Early School Entry for the Gifted: New Evidence and Concerns." Roeper Review (May, 1983): 15-17.

May, C. R., & Campbell, R. M. "Readiness for Learning; Assumptions and Realities." Theory Into Practice 20, 2 (1981): 130-134.

McGee, M., & Hills, T. When Should Schooling Begin? Paper No. 3 - Policy Studies of the Early Childhood Planning Project. Trenton, New Jersey: Office of Planning Services, New Jersey State Department of Education, 1978.

McKinnon, J.; Flieger, S.; & Patterson, M. A Comparative Study of the Effects of Preschool Education on Middle-Class Children. Puce, Ontario: Lakeside Montessori School, 1982. (ERIC Document Reproduction Service No. ED 221 179)

Osterlind, S. J. "Preschool Impact on Children: Its Sustaining Effects into Kindergarten." ERQ (Winter 1980-81): 21-30.

Peterson, S., & Ayabe, C. Kindergarten Age Requirements: Mesa Public Schools Research and Evaluation Tech Memo. Mesa, Arizona: Mesa Public Schools, 1982.

Pirozzolo, F. J., & Campanella, D. J. "The Neuropsychology of Developmental Speech Disorders, Language Disorders, and Learning Disabilities." In Neuropsychological Assessment and the School-Age Child. G. W. Hynd & J. E. Obrzut (Eds.). New York: Grune & Stratton, 1981, 167-191.

Ramey, M., & James, J. Early Kindergarten Entry Evaluation, 1976-77. Report No. 77-25. Seattle, Washington: Washington Department of Management Information Services, 1977.

Rosenthal, R. & Jacobson, L. Pygmalion in the Classroom. New York: Rinehart & Winston, Inc., 1968.

Rubin, R. Sex Differences in Effects of Kindergarten Attendance on Development of School Readiness and Language Skills. Research Report No. 10. Minneapolis, Minnesota: Minneapolis University Research, Development and Demonstration Center in Education of Handicapped Children, 1975.

School District of Philadelphia. Highlights of Early Childhood Program Accomplishments: Preliminary Reports 1981-82. Philadelphia, Pennsylvania: Office of Research, Planning and Evaluation, 1982. (ERIC Document Reproduction Service No. ED 225 658)

Uphoff, J. K. The Educational Successes of Summer Children: Report of Research. Unpublished report, 1983.

Wood, C.; Powell, S.; & Knight, R. C. "Predicting School Readiness: The Validity of Developmental Age." Journal of Learning Disabilities 17, 1 (1984): 8-11.

MWJ/2278h