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ABSTRACT

This survey of literature summarizes the findings of current research on sex differences in reading: studies relating to the validity of the sex-difference claim, studies examining the relationship between maturation factors and environmental characteristics, research concerned with factors in the home and school, and studies concerned with the reading task itself. Although the causes of sex differences in reading remain debatable, it can be said that the majority of the authors surveyed believe that such differences exist. A bibliography of resources and studies relating to sex differences in reading is included. (KS)

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BOY-GIRL DIFFERENCES IN
READING: A SURVEY
OF LITERATURE

by

John Lee Holland

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A REVIEW OF LITERATURE

The scope and complexity of the literature related to the problem of this study suggested the organization of this review into five sections. The following topics are presented: studies relating to the validity of the sex difference claim; studies relating to maturation versus environment; studies relating to home factors; studies relating to school factors; and studies relating to the reading task.

STUDIES RELATING TO THE VALIDITY OF THE SEX DIFFERENCE CLAIM

The literature purporting a definite sex difference in scholastic achievement outnumbers that questioning sex difference achievement by great numbers. Mumpower,¹ in an analysis of over 7,000 exceptional children treated in the education center at the University of Southwestern Louisiana, concluded that in the ten year period of 1956-1965, the referral ratio of boys to girls ran roughly 70 to 30 or between 2 to 1 or 3 to 1. In reading, the ratio ran 76 to 23 in favor of boys.

¹D. L. Mumpower, "Sex Ratios Found in Various Types of Referred Exceptional Children," Exceptional Child, XXXVI (April, 1970), pp. 621-622.

Peltier² pointed out that more girls than boys graduate from high school (in the ratio of about 51 to 49). And although more boys attend college, girls are more successful academically. He further stated that life expectancy among women is greater than that among men, and that boys mature less rapidly than girls.

Bentzen³ agreed that boys mature less rapidly and stated that they are physically one year behind at the age of six, 18 months behind at age nine, and a full two years less mature upon entrance in high school. Peltier⁴ further stated that nearly two-thirds of all grade repeaters are boys; more boys are under-achievers and poor readers; and three times as many boys as girls develop stuttering problems.

A stratified sampling technique was used by Wozencraft⁵ in a study of sex differences. His conclusion was that girls start off at an advantage in school work but boys tend to catch up as they progress through the school grades.

²G. L. Peltier, "Sex Differences in the School: Problem and Proposed Solution," Phi Delta Kappan, L (November, 1968), p. 182.

³Frances Bentzen, "Sex Ratios in Learning and Behavior Disorders," National Elementary Principal, (November, 1966), pp. 13-17.

⁴Peltier, op. cit.

⁵Marian Wozencraft, "Sex Comparisons of Certain Abilities," Journal of Educational Research, (September, 1963), pp. 21-27.

Sexton⁶ reported that in vastly disproportionate numbers, boys are maladjusted, the low achievers, the truants, the delinquents, the inattentive, and the rebellious. The delinquency rate among boys is five times as great as among girls. In New York City, 63 percent dropouts are boys. More than twice as many boys as girls under fifteen are currently first admissions to public mental hospitals.

The research of Dykstra and Tinney⁷ concluded that girls mature more rapidly during infancy and early childhood in almost all phases of linguistic development and academic achievement. They further reported that research findings indicate that girls are superior to boys in nearly all aspects of language and that this finding was remarkably consistent from study to study. Accordingly, girls are generally superior in age of first speech, development of articulation, and verbal fluency. It was also found that girls had more advanced visual and auditory discrimination abilities at the readiness stage. They did, however, caution that it is only when we speak of average that sex difference stands out.

Studies of sex differences in early childhood are

⁶P. T. Sexton, "Schools are Emasculating our Boys," Education Digest, XXXI (November, 1965), pp. 32-3.

⁷Robert Dykstra and Ronald Tinney, "Sex Differences in Reading Readiness-First-Grade Achievement and Second-Grade Achievement," International Reading Association Conference Proceedings, XIII, Part I (1969), pp. 623-628.

quite limited. Goldberg and Lewis⁸ pointed out that in a recent book on sex differences only ten studies were reported. In their own study they found considerable differences in play behavior in the year-old infant according to the sex of the child. They did, however, conclude that a considerable bias on the part of mothers was evident. This bias favored the girls in the same direction as research differences in school.

Palardy⁹ offered a different viewpoint in the sex difference question. He maintained that it is a self-image factor, and not sex differences, that accounts for the wide discrepancy in male-female achievement. He stated that there is a significant correlation between the self-appraisal of pupils and their perceptions of their teachers' feelings toward them, and he cited many other findings that reveal that teachers do have an impact, both positive and negative, on the development of their pupils' self-concepts. Further studies were quoted confirming the association between the self-concept of students and their academic achievement.

Jarvis,¹⁰ in a study of differences in elementary

⁸Susan Goldberg and Michael Lewis, "Play Behavior in the Year-Old Infant: Early Sex Differences," Child Development, XL (March, 1969), pp. 21-31.

⁹J. M. Palardy, "For Johnny's Reading Sake," Reading Teacher, XXII (May, 1969), pp. 720-724.

¹⁰O. T. Jarvis, "Boy-Girl Ability Differences in Elementary School Language Arts," Childhood Education, XLII (November, 1965), p. 198+.

school language arts, inferred that on the basis of findings, girls were superior to boys in their ability to achieve in the language arts, even with comparable chronological ages and grade placements. One exception was found to this premise. That was, bright girls and boys with Intelligence Quotients of 115 or more demonstrated a slight superiority in the direction of the boys, although not significant.

Many of the early studies, as reported by McFarland,¹¹ pointed to the substantial difference of male-female achievement. In a study of first-graders, McFarland reported that the sex of the instructor had small but consistent affect on the achievement of boys. It was found that a pattern of greater gains for boys than for girls occurred when working with male participants.

Criscuolo¹² spoke of sex differences in three major areas; physiologically, sociologically, and intellectually. He maintained that physiologically the visual acuity of girls and their development of fine motor skills are more advanced than boys' at the early school level. There is also a difference in metabolic rate between the sexes. Oxygen intake and energy output is greater for boys than girls. Intellectually, there is greater variability among boys. Girls show greater skill in rote

¹¹William Joseph McFarland, "Are Girls Really Smarter?" The Elementary School Journal, LXX (October, 1969), pp. 14-19.

¹²N. Criscuolo, "Sex Influences on Reading," Reading Teacher, XXI (May, 1968), pp. 762-764.

learning and verbal tasks while boys do better on tasks requiring arithmetical ability and inductive reasoning. Sociologically, boys are expected to be aggressive and athletic, and reading is often associated with femininity.

An extensive study of sex differences in school achievement was done by Cardon.¹³ He stated that abundant literature dealing with the question of sex differences supports the presence of an academic disparity favoring the girls. He further pointed out that girls do talk more and sooner; and that boys are slightly behind girls in all aspects of language development.

Carmichael¹⁴ pointed to the fact that although differences found are often not significant, they are amazingly consistent. He then concluded that school marks almost universally indicate superior achievement for girls, but that achievement tests show girls to be superior in language material and boys to excel in science and mathematics. Vocational aptitude tests show boys higher in mechanical aptitude and girls in clerical aptitude.

Gates¹⁵ ran an extensive study of children from

¹³B. W. Cardon, "Sex Differences in School Achievement," Elementary School Journal, LXVIII (May, 1968), pp. 427-34.

¹⁴Leonard Carmichael (editor), Manual of Child Psychology (New York: John Wiley and Sons, 1954), pp. 1070-75.

¹⁵Arthur I. Gates, "Sex Differences in Reading Ability," Elementary School Journal, LXI (May, 1961), pp. 431-34.

grades 2 through 8 using the Gates Reading Survey. He found that the girls were superior to the boys in both speed and vocabulary. No difference was found for comprehension.

Anderson, Hughes, and Dixon^{16,17} found that girls read sooner than boys. Once boys and girls have learned to read, however, they progressed at approximately the same rate.

Wozencraft¹⁸ found that differences between boys and girls were significant on the third-grade level, but none was significant at the sixth-grade level. Prescott¹⁹ found no difference in the achievement of boys and girls, as did Powell, O'Connor, and Deutsch.²⁰

On the other hand, Carroll²¹ found that girls

¹⁶Irving H. Anderson, Byron O. Hughes, and Robert W. Dixon, "Age of Learning to Read and Its Relationship to Sex, Intelligence, and Reading Achievement in the Sixth Grade," Journal of Educational Research, XLIX (February, 1956), pp. 447-53.

¹⁷Anderson, "The Rate of Reading Development and Its Relation to Age of Learning to Read, Sex, and Intelligence," op. cit., L (March, 1957), pp. 481-94.

¹⁸Wozencraft, op. cit.

¹⁹George A. Prescott, "Sex Differences in Metropolitan Readiness Test Results," Journal of Educational Research, XLVI (April, 1955), pp. 605-10.

²⁰Marvin Powell, Henry A. O'Connor, and Murray Deutsch, "Are There Really Sex Differences in Achievement?" Journal of Educational Research, LVII (December, 1963), pp. 210-12.

²¹Marjorie W. Carroll, "Sex Differences in Reading Readiness at the First Grade Level," Elementary English, XXV (October, 1948), pp. 370-75.

tend to have superior readiness skills before entering school, and she concluded that any differences found later may well be due to initial differences in reading readiness. Samuels²² found that girls were far more ready to learn to read than boys, and Balow²³ found girls tested significantly higher on readiness tests, but when reading readiness was held constant there were no significant differences.

Gallagher²⁴ suggested that the superiority of girls could be explained on the basis of heredity, and Sheridan²⁵ added credence to this by stating that girls have innate "language sense." He further stated that boys are slightly later than girls in almost all aspects of development.

A final, but not to be overlooked point by Cardon²⁶ suggested that the ratio of 2 to 1 in boy-girl retarded readers does not seem reasonable to what one might expect if there were environmental causation. This appears to

²²Fra L. Samuels, "Sex Differences in Reading Achievement," Journal of Educational Research, XXXVI (April, 1943), pp. 594-603.

²³Irving Balow, "Differences in First Grade Reading," Elementary English, XL (March, 1963), pp. 303-306.

²⁴J. Rosewell Gallagher, "Cant' Spell, Can't Read," The Atlantic Monthly, CLXXXI (June, 1948), pp. 35-39.

²⁵Mary D. Sheridan, The Child's Hearing for Speech (London: Methuen and Company, Ltd., 1948).

²⁶Cardon, op. cit.

be a genetic ratio.

Mumpower²⁷ gave little credence to the term sex difference and explained that the term deviant seemed to have more general applicability. He based this on an extensive study of referred children indicating that boys outnumbered girls in all areas of exceptionality.

A Michigan study by Anderson, Hughes, and Dixon²⁸ revealed that after children achieved a reading age of eighty-four months on the Gates Primary Reading Test, no difference between boys' and girls' rates of advancement was found. Flaherty and Anderson²⁹ stated that the superiority of girls in reading and language achievement tended to diminish during the intermediate grades.

Farquhar and Payne³⁰ stated that for various methods a wide sex difference is noticed in the number of individuals selected for a particular achievement classification. It was found that different combinations of IQ-achievement batteries produced irregular male-female

²⁷ Mumpower, op. cit.

²⁸ Anderson, "Age of Learning to Read and Its Relation to Sex, Intelligence, and Reading Achievement in the Sixth Grade," op. cit.

²⁹ R. Flaherty and H. B. Anderson, "Boys' Difficulty in Learning to Read," Elementary English, XLIII (May, 1966), pp. 471-2.

³⁰ W. W. Farquhar and D. A. Payne, "A Classification and Comparison of Techniques used in Selecting Under- and Over-Achievers," Personnel and Guidance Journal, XLII (1964), pp. 874-884.

underachievement ratios. Teigland and Winkler³¹ claimed that underachievement, as a male problem, is dependent upon the criterion measures employed in identifying under-achievers.

In a study of long-term correlates of children's learning, Olson, et. al.³² found that there was no significant sex difference in the level of performance or variability in the subject. In incidental learning, girls did make a significantly greater number of correct responses than boys. Dolores Durkin³³ maintained that while girls are far ahead of boys at the end of the first grade, the difference is less marked the next year and the two groups are nearly equal by the end of the third grade. She stated that anyone can teach boys how to read by catching their interest.

STUDIES RELATING TO MATURATION VERSUS ENVIRONMENT

According to Dykstra and Tinney,³⁴ research

³¹J. J. Teigland and R. C. Winkler, "Is Underachievement Basically a Male Problem?" Personnel and Guidance Journal, XLIV (December, 1965), pp. 430-31.

³²G. M. Olson, et. al., "Long-Term Correlates of Children's Learning," Journal of Educational Psychology, LIX (August, 1968), pp. 227-32.

³³R. G. Stauffer and D. Durkin, "Do Sex Differences Affect Reading?" Instructor, LXXVII (May, 1968), p. 25.

³⁴Dykstra, op. cit.

evidence has gradually led to the conclusion that girls mature more rapidly during infancy and early childhood in almost all phases of linguistic development and academic achievement. They claimed that girls get in the first and last word—they speak at an earlier age than boys and they live longer. They also quoted a study by Anastasi in which females were found superior in almost every aspect of language development, and that this finding was remarkably consistent from study to study. In conclusion they alluded to the fact that girls are generally superior in age of first speech, development of articulation, and verbal fluency.

Peltier,³⁵ as previously stated, indicated that boys mature less rapidly than girls and are two years less mature upon high school entrance. He stated that boys are more susceptible to physical stress and trauma, as indicated by their higher death and illness rates. Further, the life expectancy of the female is longer than that of the male. Sanason³⁶ noted that until puberty, it is extremely difficult to find a pathologic or problem condition in which the incidence among girls is greater than among boys.

Flaherty and Anderson³⁷ maintained that in

³⁵G. L. Peltier, op. cit.

³⁶Sanason, Psychological Problems in Mental Deficiency (New York: Harper and Brothers, 1952).

³⁷Flaherty, op. cit.

skeletal development girls are superior to boys throughout the pre-school period. Eye muscles and visual acuity of boys may not be equal to the task of beginning reading since many boys are less physiologically mature. Boys find frustrations at the primary level because they are expected to do close work, make fine discriminations, and perform other tasks which are too high a maturation level.

It was the opinion of Traxler³⁸ that a sizeable speed element is found on many tests and that girls are more facile than boys in reading and study situations, but that, under conditions where speed is not a critical element, there may be no comprehension differences.

Durkin³⁹ claimed that some boys have trouble with beginning reading not because they are "immature"--whatever that means--but because everything about the primary reading program is more feminine than masculine. She stated that because of its vagueness, a factor like immaturity can easily become a scapegoat when boys encounter more difficulties than girls. It was her considered judgment, after 20 years as director of a reading clinic and a consultant for many schools, that the principal variable in a classroom is the teacher.

³⁸A. Traxler, "Sex Differences in Comprehension among Junior High School Students," Education, LXXXIV (April, 1969), pp. 312-14.

³⁹Stauffer, op. cit.

Goldberg and Lewis⁴⁰ did an extensive study of play behavior in the year-old infant. They discovered that even at this age, several significant sex differences were evident. The girls showed significantly more dependency toward their mothers than boys, and they returned to their mothers after an average of 273.5 seconds, while the boys' average was twice as long, 519.5 seconds. It was also discovered that boys spent more time in the squares farthest from their mother. When a barrier was placed between the mother and child, it was found that girls cried more and motioned for help more than boys. Boys on the other hand, made a more active attempt to get around the barrier. Finally, the data indicated that mothers of girls touched their infants more than mothers of boys. Moreover, mothers vocalized to girls significantly more than to boys, and significantly more girls than boys were breast-fed. The study concluded by drawing a parallel between the infant treatment and behavior differences usually found between sexes of later age. Thus, parents can be active promulgators of sex-role behavior through reinforcement during the first year of life. As a sidelight to the study, it was found that some mothers were irritated when staff members incorrectly identified the sex of their child. It appeared that the magnitude of the mother's displeasure revealed the cognitive

⁴⁰Goldberg, op. cit.

commitment to this infant as a child of given sex.

A point was made by McFarland⁴¹ that there is a great temptation to reward children of one's own sex. Thus, mothers who spend the greater amount of time in child rearing, and teachers, most of which are women, may tend to regard boys' behavior as disturbingly different from appropriate behavior for girls. Cardon⁴² exemplified this problem by stating that, although there is a general retardation level for male-female reading of 2 to 1, the referral ratio is 10 to 1. A considerable treatment bias seems evident. Lamb,⁴³ in a study of teacher verbal cues, reported that an implication exists that girls are more responsive to a female teacher's verbal cues than are boys.

As a teacher of over 20 years experience, Young⁴⁴ found that teaching boys in isolation produced favorable results. She said that girls like to look to boys for leadership, but boys do not want to be led by girls.

⁴¹McFarland, op. cit.

⁴²Cardon, op. cit.

⁴³G. S. Lamb, "Teacher Verbal Cues and Pupil Performance on a Group Reading Test," Journal of Educational Psychology, LVIII (December, 1967), p. 336.

⁴⁴I. W. Young, "No Girls to Giggle," Texas Outlook, LII (February, 1968), p. 39.

Henderson and Long⁴⁵ found two variables of significance in a study of reading readiness among children of varying backgrounds. The variables of preference for mother among girls and distance from teacher among the boys retained their significant relation to readiness with pre-school education control. Carpenter and Busse⁴⁶ discovered a range of differences in the development of self-concept in Negro and white welfare children. The girls were overall more negative in their self-concepts than the boys.

Preston⁴⁷ matched students from Philadelphia and Wiesbaden, Germany. He found that in Philadelphia girls were superior to boys in reading ability, but in Wiesbaden the boys were superior to the girls.

Berk, Rose, and Stewart⁴⁸ studied the attitudes of English and American children toward their school experience. Students of the United States tended to have

⁴⁵E. H. Henderson and B. H. Long, "Correlations of Reading Readiness Among Children of Varying Background," Reading Teacher, XXII (October, 1968), pp. 40-44.

⁴⁶Thomas R. Carpenter and Thomas V. Busse, "Development of Self Concept in Negro and White Welfare Children," Childhood Development, XL (September, 1969), pp. 935-39.

⁴⁷Ralph C. Preston, "Reading Achievement of German and American Children," School and Society, XC (October, 1962), pp. 350-54.

⁴⁸Laura E. Berk, Marion H. Rose, and Diane Stewart, "Attitudes of English and American Children Toward Their School Experience," Journal of Educational Psychology, LXI, No. 1 (February, 1970), pp. 33-40.

the least favorable attitudes. It was found that no significant difference existed in socio-economic status and attitudes. In general, girls tended to have more favorable attitudes than those of boys. However, the boys surpassed girls on the self-concept indexes.

Extraversion, introversion, and reading ability were studied by Vehar.⁴⁹ He concluded that extravert girls had the tendency to be more efficient readers. Introvert boys showed tendencies toward increased reading ability.

Mortenson⁵⁰ compared pre-reading tasks, socio-economic status, and sex. There was not only a significant sex difference in visual and auditory discrimination, but a corresponding socio-economic pattern. Further, he maintained that differences within sexes, which may be greater than differences between sexes, must be taken into consideration. In a study of hierarchical needs, Groth and Holbert⁵¹ concluded that gifted girls from ages 10 to 14 maintained a higher level on Maslow's

⁴⁹M. A. Vehar, "Extraversion, Introversion, and Reading Ability," Reading Teacher, XXI (January, 1968), pp. 357-60.

⁵⁰W. P. Mortenson, "Selected Pre-Reading Tasks, Socio-Economic Status, and Sex," Reading Teacher, XXII (October, 1968), pp. 45-49.

⁵¹Norma Jean Groth and Priscilla Holbert, "Hierarchical Needs of Gifted Boys and Girls in the Affective Domain," The Gifted Child Quarterly, XII (Summer, 1969), pp. 129-133.

hierarchy of needs than gifted boys.

McCarthy⁵² has attempted to explain that the roots of the sex differentiation must be sought in early infancy. The mother is the speech model, and the girl identifies more readily with the mother during the formative years. The boy identifies with the father, but the father is seldom present. It appeared that for a number of reasons, girls are preferred to boys. Girls, for example, are less active and more easily controlled. Boys are also encouraged to participate in games of an outdoor nature which increases the length of separation of the child from adult models. Finally, the girl generally receives more training in conversational involvement because her interests are similar to her mother's.

Betts⁵³ pointed a finger at the promotion of girls on lower standards of achievement than are expected for boys. St. John⁵⁴ found that teachers do not adjust to boys as well as to girls.

Palardy⁵⁵ gave four possible alternatives to the

⁵²Dorothy A. McCarthy, "Some Possible Explanations of Sex Differences in Language Development and Disorders," Journal of Psychology, XXXV (January, 1935), pp. 155-160

⁵³Emmett A. Betts, Foundations of Reading Instruction (New York: American Book Company, 1957).

⁵⁴Charles W. St. John, "The Maladjustment of Boys in Certain Elementary Grades," Educational Administration and Supervision, XVIII (December, 1932), pp. 659-72.

⁵⁵Palardy, op. cit.

sex difference question. These are: (1) boys mature physically at a slower pace than girls, (2) the instructional content is said to be less appealing to boys than to girls, (3) there is a greater conflict between women teachers and boys than with girls, (4) that the environmental factors mold the self-concept of the boys to that of defeatism.

Criscuolo⁵⁶ indicated that physiologically the visual acuity of girls and their development of fine motor skills are more advanced than boys at an early school level. Oxygen intake for boys is greater and their energy output is greater. Research indicated that the disparity between boys and girls in reading achievement appeared in the first grade. At the beginning of the school year, no differences were accounted, yet, by the end of the first grade, the girls had pulled ahead of boys in reading achievement.

STUDIES RELATING TO HOME FACTORS

The study of Goldberg and Lewis,⁵⁷ which was described earlier in this paper, made the following points: (1) infant girls appear more attached to their mothers, (2) the girls are more helpless in a separation situation than boys, (3) there was more tactile exchange

⁵⁶Criscuolo, op. cit.

⁵⁷Goldberg, op. cit.

between mothers and girls, (4) mothers vocalized significantly more to girls than to boys, (5) more girls than boys were breast-fed rather than bottle-fed.

McCarthy⁵⁸ made the following implication of the home environment:

1. The mother is the speech model. As the girl identifies with the mother during the formative years, the verbal experiences with the mother verbal model are more pleasant and satisfying for the girl than they are for the boy. The boy identifies with the father, but the father is seldom present.

2. There appeared to be different parental attitudes toward the sexes favoring the girls.

3. Boys, because of encouragement to participate in active-outdoor games, are separated more from the adult models.

4. The girl generally receives more training in conversational involvement because her interests are similar to her mother's.

Gnagey⁵⁹ ran a study of students' attitude learning as a function of parental acceptance and sex of teacher. He concluded that in a male instructor's classes, girls

⁵⁸McCarthy, op. cit.

⁵⁹W. J. Gnagey, "Student Attitudes Learning as a Function of Parental Acceptance and Sex of Teacher," Journal of Teacher Education, XIX (Fall, 1968), p. 316.

who scored above the median on father-acceptance made significant gain in their professional attitudes during the semester, but girls who feel rejected by their fathers displace these feelings upon a fatherly college instructor and also unconsciously seek to win him over as though he were the rejected parent. In the same male instructor's classes, significant professional attitude gains were made both by those boys who scored above the median on father acceptance, and by those scoring below that median. Perhaps many boys are sufficiently male-identified by this time that their wish to emulate a father figure overrides any feelings of rejection. In the female instructor's classes, significant professional attitude gains were made by boys who scored below the median in mother acceptance, but this was not true of boys who scored above the median. Here, boys who feel rejected by their mothers may try to obtain the acceptance of a motherly instructor. In the same female instructor's classes, significant professional attitude gains were made by both girls who scored above the median on mother acceptance and those that scored below that median.

A study by Heilbrun, Jr.⁶⁰ stated that males and females who are identified in a modeling sense with instrumental fathers show the most extensive and

⁶⁰ Alfred B. Heilbrun, Jr., "An Empirical Test of the Modeling Theory of Sex-Role Learning," Child Development, XXVI (September, 1965), pp. 789-99.

appropriate sex-role differences in personality. Sex-role differences for males and females identified with expressive mothers are somewhat less extensive and appropriate, while male and female differences under the condition of identification with a sex-role reversed instrumental mother or expressive father were restricted and even less appropriate to sex role. It was noted that fathers are presumed to be more capable than mothers of differentiating their sex role. It was also assumed that fathers systematically vary their sex role as they relate to male and female offspring.

Sutton-Smith and others⁶¹ did a study of the effect of father-absence in families of different sibling compositions. They concluded that the boy with a younger brother is less affected than the boy with a younger sister, and the girl with a younger sister is less affected than the girl with a younger brother. An only girl is affected by the father's absence, but an only boy is not. From their study they concluded that family constellation is significant in the sex difference effects produced by father absence.

A study conducted by McFarland⁶² gave further

⁶¹B. Sutton-Smith and others, "Father-Absence Effects in Family of Different Sibling Compositions," Child Development, XXXIX (December, 1968), pp. 1213-21.

⁶²McFarland, op. cit.

emphasis to the role of male identification. In his study, boys and girls who identified with male figures and worked with male participants showed a consistent, though not significant, pattern of greater gains in each of the areas measured.

Sexton⁶³ claimed that boys too often are raised by strong and assertive women at home and then turned over to strong and assertive women at school. The masculine virtues are usually diametrically opposite to the school's female ones. The masculine stress is on aggressiveness in all things, rather than passivity. It is on action and movement rather than sitting still; independence rather than obedience; speaking out rather than keeping quiet; fearless, courage, and daring rather than timidity and surrender.

Flaherty,⁶⁴ in his study of boys' difficulty in reading, pointed to the cultural differences of play activity. He stated that girls' play activities (weaving, sewing, etc.) help facilitate the fine manual skills and develop near point vision. On the other hand, boys are expected to be athletic, and aggressive, while girls are expected to be more reserved. The girls' lack of aggressiveness often permits their reading problems to go unnoticed.

⁶³Sexton, op. cit.

⁶⁴Flaherty, op. cit.

Minuchin⁶⁵ studied sex-role concepts as a function of the home environment. Findings supported the hypothesis that unequivocal commitment to sex role, sex-typed play, aggressive expression in boys, and family orientation, in girls were more consistently characteristic of children from traditional backgrounds. Girls from modern backgrounds departed most from conventional expectations. His study corroborated the findings that girls are less sex typed and more flexible in role commitment than boys.

Anastasiow⁶⁶ studied the relationship of school success and sex-role patterns. It was found that boys who have adopted a culturally appropriate sex-role achieve at a significantly higher level than those boys who have not adopted a stable pattern.

Mortenson⁶⁷ ran a study on pre-reading tasks, socio-economic status, and sex, and found that all variables could play significant role in the child's achievement. Henderson⁶⁸ reached a similar conclusion and stated that readiness was associated with greater preference for

⁶⁵P. Minuchin, "Sex-Role Concepts and Sex Typing in Childhood as Function of School and Home Environments," Child Development, XXXVI (December, 1965), pp. 1033-1047.

⁶⁶N. J. Anastasiow, "Success in School and Boys' Sex-Role Patterns," Child Development, XXXVI (December, 1965), pp. 1053-1066.

⁶⁷W. F. Mortenson, "Selected Pre-Reading Tasks, Socio-Economic Status, and Sex," Reading Teacher, XXII (October, 1968), pp. 45-9.

⁶⁸Henderson, op. cit.

mother among the girls and among the whites, less identification with the teacher among the boys, and greater realism for size among the whites.

In a study of Negro and white welfare children, Carpenter and Busse⁶⁹ concluded that the girls were significantly more negative than boys in their self-concepts, but whereas Negro girls are much more negative than Negro boys at both the first and fifth grades, white girls are only slightly more negative than white boys at both grade levels. It was found that girls from lower income families have the most negative feelings of self-esteem among the groups tested.

Cottle⁷⁰ spoke also of the norms of American society. He stated that a "real man," at least one from the middle class, learns to make it on his own, while a "real woman" employs the skills of womanhood learned as a child in the development of her adolescent and adult life. Young men may evidence desires to reunite themselves with childhood as they plan for adulthood. Recognizing the repetitive or the integrating nature of the feminine role, young women may disengage themselves from both childhood and inevitable adulthood. In this way, they might honor themselves as women rather than "being

⁶⁹Carpenter, op. cit.

⁷⁰Thomas J. Cottle, et. al., "Adolescent perceptions of time: The effect of age, sex, and social class," Journal of Personnel and Guidance, XXXVI (December, 1969), pp. 636-50.

nothing more" than a mother's child and a child's mother. In traditional upper-class culture, women cannot fully assume responsibility for generational maintenance. A perception of change may reflect the lessened status of motherhood or the urge to escape temporarily from the social system denying them importance.

Peisach,⁷¹ in a study of children's comprehension of teacher and peer speech, found that sex differences were not constant across social class levels. Berk, Rose, and Stewart⁷² agreed with this finding in their study of English and American children. It was found that no significant differences existed in socio-economic status and attitudes, which suggested that socio-economic status does not play a significant role in the child's feelings toward school.

A survey was conducted by Parrish and Weldy⁷³ in an attempt to discover those things most meaningful to the high school students. They summarized their study by stating that it would be very surprising, indeed, if students, as well as adults (underscore added), did not

⁷¹E. C. Peisach, "Children's Comprehension of Teacher and Peer Speech," Child Development, XXXVI (June, 1965), pp. 467-80.

⁷²Berk, op. cit.

⁷³K. Parrish and G. R. Weldy, "Good Scholarship: Do Students Really Care?" Clearing House, XLIII (January, 1969), pp. 275-79.

place athletic, social, or leadership honors above scholastic achievement, for as the student approaches adulthood, he quickly realizes where the material rewards are in society.

Strang⁷⁴ surveyed a group of children as to their reasons of becoming better readers. She found that girls of all ages gave more consideration to the status and social acceptance that are associated with reading proficiency than boys. Although reading for personal enjoyment and relaxation was rated very high, reading to please one's parents was the least important of all categories measured.

Luria and Rebelsky⁷⁵ studied children's conception of events before and after confession of transgression. They found that the socialization of girls is directed toward mitigating overcontrol and that of boys toward mitigating undercontrol. It was found that boys showed more variability and more interrelatedness of their judgments than did girls.

Finally, a study by Groth and Holbert⁷⁶ pointed

⁷⁴Ruth Strang, "Student's Reasons for Becoming Better Readers," Education, LXXXIX (November, 1968), pp. 127-131.

⁷⁵Zella Luria and Freda Rebelsky, "Children's Conceptions of Events Before and After Confession of Transgression," Childhood Development, XL (December, 1969), pp. 1055-61.

⁷⁶Groth, *op. cit.*

out that there were vast sex difference variances in the Maslowian needs of children with girls aspiring to a higher level than boys.

STUDIES RELATING TO SCHOOL FACTORS

Teacher

The majority of research studies in the teacher sex-difference question related to the vastly disproportionate number of women educators. Cardon⁷⁷ explained that teachers are more nurturant of girls, and this can be demonstrated through a comparison of the ratio of reading retardation between boys and girls--2 to 1--and the ratio of boys and girls who find their way into the reading clinics. It is interesting that the clinic boy-girl ratio is approximately 10 to 1. Cardon asked, "Where are all the girls who have been found to be retarded readers at the rate of one girl to every two boys?"

Peltier⁷⁸ cited a 1954 study that found girls were given higher ranking than boys in both teacher acceptance and marks, notwithstanding relative equivalence in actual attainment as measured by tests. In the school situation, "teacher's pet" is a label corresponding to "mama's boy" at home. A boy is not regarded as "all boy".

⁷⁷Cardon, op. cit.

⁷⁸Peltier, op. cit.

unless he exhibits some overt aggression, which goes against the general school pattern as set by teachers. Role behavior such as male aggressiveness or dominance in school brings a boy into conflict with the teacher's role as the authority figure maintaining order in the classroom. By being analytical, boys may create difficulties for themselves by making too many decisions of their own rather than accepting suggestions from a teacher. Several studies have indicated that girls receive significantly greater approval from teachers than do boys. Women teachers scold disorderly boys much more often and much more harshly than they do girls, but this often only leads to greater aggressiveness by the boys. Finally, women teachers tend to ask questions that favor feminine ways of thinking.

Grambs and Waetjen⁷⁹ argued that women do not know that they use words differently, structure space differently, perceive persons and reality differently from men. Women teachers may not be aware that they value neatness and cleanliness above intellectual attainment, and tend to be more prejudicial than men and more dogmatic about their prejudices. They perceive that for boys, the classroom was a place where they must be quiet,

⁷⁹Jean B. Grambs and Walter Waetjen, "Being Equally Different: A New Right for Boys and Girls," National Elementary Principal, (November, 1966), pp. 59-67.

neat, and think like girls--all of which appeared to be contrary to the ideas of what a boy should be held by society.

Peltier⁸⁰ again stated that nearly everyone agrees on the need for more men teachers in the elementary school. Grambs and Waetjen⁸¹ advocated male teacher-researchers for elementary schools so that the men could avoid the stereotype of the elementary teacher. The use of sixth-grade boys as tutors and companions for first- and second-grade boys may also have some merit. Allowing PTA members to be the teacher for one day was also suggested as a means for enlightening the public to the teacher's role.

Criscuolo⁸² asserted that boys are usually introduced to reading by female teachers, which may have some adverse effects on their views toward the reading act.

Palardy⁸³ stated that the school procedures of having many women teachers in the early grades are said to conflict more with the personality traits of boys than with those of girls. Further, some boys are less successful in beginning reading because their teachers believe

⁸⁰Peltier, op. cit.

⁸¹Grambs, op. cit.

⁸²Criscuolo, op. cit.

⁸³Palardy, op. cit.

that they are less successful. In a 1967-68 study conducted in Ohio, statistical support was found for this explanation. There were significant gains made by boys whose teachers believed that boys were as successful as girls in learning to read. It was concluded that the following factors were affective in the study:

1. When teachers believe that certain pupils have a relatively good or poor chance of succeeding academically, they will communicate these beliefs to their pupils.

2. The pupils then begin to perceive and value themselves in the same manner they think their teachers perceive and value them.

3. The pupils' self-perceptions regarding their ability to succeed in a curriculum area become positively associated with their actual performance in the area.

Flaherty and Anderson,⁸⁴ in researching boy's difficulty in learning to read, noted that the prevalence of women teachers in the primary grades tends to promote feminine interest, attitudes, habits, and general behavior which makes adjustment easier for girls than for boys. Women teachers tend to promote the natural advantage of verbal activities. Sexton⁸⁵ stated that school is too

⁸⁴Flaherty, op. cit.

⁸⁵Sexton, op. cit.

much a women's world, governed by women's rules and standards. The school code is that of propriety, obedience, decorum, cleanliness, silence, physical and, too often, mental passivity. The masculine virtues are usually diametrically opposite to the school's female ones.

Durkin⁸⁶ agreed with Sexton by stating that anyone can teach boys to read by catching their interest. She stated further, that a teacher working with an all-boy group will be tempted to blame slow learning on "immaturity" when the real culprit may be poor teaching.

She believed that the principal variable in the classroom is the teacher.

Meyer and Thompson's⁸⁷ study has demonstrated that the temptation is great to reward children of one's own sex. Teachers, most of them are women, especially in the primary grades, may tend to regard boy's classroom behavior as disturbingly different from behavior considered appropriate for girls. McFarland,⁸⁸ however, cautioned that though the suggestion has often been made that more men should teach at the primary level, the advantages of such practice have not been demonstrated.

⁸⁶Stauffer, op. cit.

⁸⁷W. J. Mayer and George G. Thompson, "Teacher Interactions with Boys as Contrasted with Girls," Psychological Studies of Human Development (Appleton-Century-Crofts, (1963).

⁸⁸McFarland, op. cit.

Materials

Harris and Baird⁸⁹ presented a rationale for boys' reading materials. They stated that the view is often expressed by teachers of reading that many failures among boys can be traced to a lack of interest in stories which have little appeal for them. Although there were no significant differences in this study, the differences favored interest-loading of words in each case.

Sexton⁹⁰ stated that good literature can be tough, masculine, simple, perceptive, and expressive of feelings and experience. He questioned, "Why, for example, in teaching Shakespeare, sacrifice the blood and bawdiness and the action plots, as wild as Goldfinger, to the lyricism of the language that tends more often to be stressed?" The subject matter of the schools seem all too frilly feminized. Palardy⁹¹ agreed and stated that the instructional content found in many basal readers is said to be less appealing to boys than to girls.

Peltola⁹² (sic) selected sixteen books from 3300

⁸⁹L. A. Harris and L. Baird, "Interest in the Initial Acquisition of Words," Reading Teacher, XXII (January, 1969), pp. 312-14.

⁹⁰✓Sexton, op. cit.

⁹¹Palardy, op. cit.

⁹²Bette J. Petola, "A Study of Children's Book Choices," Elementary English, XL (November, 1963), pp. 690-95.

Best Books for Children and paired them with sixteen books not found in the listing. The children of this investigation were asked to select the better of each of the sixteen pairs of books. Not only did the children differ significantly from the Institute in their choice of favored books, but the girls chose the favored books significantly more than the boys did. It could be argued on the basis of these findings that girls at the first-grade level have been more influenced by adults than boys. Perhaps the mother's influence on the interest patterns of her children is greater on daughters than on sons.

Studies by Norvell,⁹³ Rudman,⁹⁴ and Groff⁹⁵ have demonstrated that, although similarities do exist in the interest patterns of boys and girls, the differences are striking. For example, while girls of late elementary school age prefer poetry, boys prefer prose. Stanchfield⁹⁶ demonstrated that there do not appear to be differences in reading interests between superior, average and poor

⁹³George W. Norvell, What Boys and Girls Like to Read (Morristown, New Jersey: Silver Burdett Company, 1958).

⁹⁴Herbert C. Rudman, "The Informational Needs and Reading Interests of Children in Grades IV through VIII," Elementary School Journal, LV (May, 1955), pp. 502-12.

⁹⁵Patrick J. Groff, "Children's Attitudes Toward Reading and Their Critical Reading Abilities in Four Content-Type Materials," Journal of Educational Research, LV (April, 1962), pp. 256-265.

⁹⁶Jo M. Stanchfield, "The Reading Interests of Eighth-Grade Boys," Journal of Developmental Reading, V (Summer, 1962), pp. 256-265.

all boy readers.

Flaherty and Anderson⁹⁷ found that boys were more adept in concrete interests than in problem solving in areas other than those which are purely linguistic. Science and mathematics and mechanical and athletic activities hold strong interest among boys. Much needs to be done in the writing of books to include topics which interest boys.

Durkin⁹⁸ proposed allowing boys to select stories about dinosaurs and cowboys and introduced a reading vocabulary that included jet and rocket. She said to put up a bulletin board that highlights current heroes of basketball and other sports or that has labeled pictures of all equipment being used at a nearby building project. "Do just these few things and watch those 'immature' boys suddenly ripen!" She further stated, "Let's applaud boys for resisting the substandard, stilted, artificial approach to reading based on 'Run, Dick, Run' or 'pan, can, fan, Dan,' and learn thereby that when reading is taught as a communication process boys succeed as well as girls."

Rankin and Thames⁹⁹ ran a study of children's

⁹⁷Flaherty, op. cit.

⁹⁸Stauffer, op. cit.

⁹⁹E. F. Rankin and C. L. Thames, "Methodology for Studying Children's Reactions to Stories in First Grade Readers," Reading Teacher, XXII (December, 1968), pp. 24-5+.

reactions to stories in first-grade readers. A sex difference comparison for mean ratings showed that seven males favored the phonic story, four indicated no differences, and two favored the basal story. Among females, five favored the phonic story, two indicated no difference, and none favored the basal story. Female subjects gave higher ratings to both stories than the males, but only the females showed a significant difference in ratings for the two stories. It could be that first-grade girls, being more mature and having better vocabularies, are capable of making more discriminating responses than male students.

Chall¹⁰⁰ made the point that no method has ever been systematically tested in terms of pupil interest. Yet over and over again, a particular method is said to be more interesting, to produce readers who are more interested in reading, and therefore to be preferable. The "more interesting" approach is often the one favored by the researcher himself.

Students' reasons for becoming better readers were the topic of research done by Ruth Strang.¹⁰¹ She found that boys and girls showed few major differences in their attitudes toward the importance of reading. Girls more

¹⁰⁰ Jeanne Chall, Learning to Read: The Great Debate (New York, New York: McGraw-Hill Co., 1967), pp. 94-95.

¹⁰¹ Strang, op. cit.

often associated reading improvement with personal enjoyment and relaxation than did boys. Girls in the elementary grades also seemed more concerned with their ability to read aloud in class. As would be expected, adolescents were more interested than elementary pupils in improving their reading as a means of increasing their skills in speaking, writing, and conversation.

Criscuolo¹⁰² suggested several procedures and techniques which might be tried by classroom teachers.

The best type of reading instruction may be given, but if sex differences in learning are overlooked, the best results may not be achieved.

STUDIES RELATING TO THE READING TASK

There is only limited research relating to the major areas of the reading act. Many of the authors previously quoted have indicated the superiority of girls in reading without specifying the areas of reading consideration.

Comprehension and Word Attack

Jarvis¹⁰³ in a study of boy-girl ability differences in elementary school language arts found that girls were generally superior to their peer group of boy

¹⁰²Criscuolo, op. cit.

¹⁰³Jarvis, op. cit.

pupils, since a larger percentage of them were working above grade level in most subjects. The one exception to this was found among the bright boys and girls in reading vocabulary and comprehension. These boys and girls were found to be achieving at comparable levels in reading vocabulary and comprehension. The bright boys slightly excelled the girls' achievement in reading comprehension in that 100 percent of them was found to be working above grade level as opposed to 99 percent of the girls.

Peltier¹⁰⁴ noted that little difference between boys and girls existed throughout the middle and top of the distribution of scores on a test in reading comprehension, although toward the bottom of the distribution boys scored lower than girls.

Dykstra and Tinney¹⁰⁵ presented a different argument. They found girls in first grade were significantly superior on tests of word recognition, paragraph comprehension, spelling, and word study skills. Mortenson¹⁰⁶ found that sex was an important factor contributing significantly to differences in performance on the variables of visual discrimination of letters and words, auditory

¹⁰⁴Peltier, op. cit.

¹⁰⁵Dykstra, op. cit.

¹⁰⁶Mortenson, op. cit.

discrimination of beginning sounds, total visual discrimination and total auditory discrimination. The significance favored the girls in each case.

Vocabulary

Jarvis¹⁰⁷ found that bright boys and girls were achieving at comparable levels in reading vocabulary. Both groups were working at an above grade level average.

Peltier¹⁰⁸ found that boys obtained higher scores on test of vocabulary at all grade levels. Dykstra and Tinney¹⁰⁹ maintained that the only area in which boys could compete on equal terms with girls involved understanding vocabulary measured by an oral test. This aspect of their study supported recent research which indicated that boys are not inferior in vocabulary, if this knowledge is measured independent of reading skill. An alternative explanation is, that boys perform better, not because of the lack of reading involved, but because of their greater interest in science and social science. The study also supported recent surveys which indicated that boys in the primary grades possessed an equal, if not greater, understanding vocabulary when this knowledge is tested orally. If extent of vocabulary is a measure of

¹⁰⁷Jarvis, op. cit.

¹⁰⁸Peltier, op. cit.

¹⁰⁹Dykstra, op. cit.

intelligence, as is generally assumed, boys are probably just as intelligent as girls.

Anderson¹¹⁰ recently completed a study in which it was found that first-grade children master oral vocabularies that reach out into state, national, and world events.

In a study conducted by Harris,¹¹¹ it was found that the acquisition scores for subjects learning boy-words and subjects learning girl-words were not significantly different. Boys learned either boy-words or girl-words equally well. Girls learned boy-words and girl-words equally well. However, in all eight comparisons the differences favored the interest-loading of the words. Retention of the words originally acquired was independent of sex, word type, and ability of the subjects.

SUMMARY

Although the causes of sex differences in reading remain debatable, it can hardly be challenged that the majority of authors believed that sex differences do exist. A few studies (14-23) indicated that under certain circumstances boys achieve as well as girls. Mumpower (27)

¹¹⁰Howard B. Anderson, "A Comparison of the Oral Vocabulary of Six Year Olds with the Words Used in Beginning Basal-Readers," unpublished doctoral thesis, The Pennsylvania State University, 1964.

¹¹¹Harris, op. cit.

stated that boys outnumbered girls in all areas of exceptionality.

The problem of maturation versus environment, as presented in the literature, is a difficult one. Proponents of both sides made strong arguments for their cases. The maturationalists maintained that from the conceptional beginning the girls have the advantage. They argued that girls speak earlier, and that they are less susceptible to physical stress and trauma. They pointed out further, that the life expectancy of the female is longer. Indications were given that the visual development of boys may not be equal to that of girls.

The environmentalists presented a different point of view. They argued that sex difference patterns must be learned. They cited studies indicating that the early treatment of children within the family may be unintentionally biased. Several of their studies pointed to the fact that girls obtain more verbal interaction within the family structure, and that with the mother in the home, the female model becomes the dominant one.

Within the school, the environmentalists argued that many indications of sex bias in favor of girls existed. The teacher, materials, and the male role all worked to the disadvantage of the boys.

Several studies have tried to relate the home and

its patterns to sex differences. The effect of parents in the development of sex-type behavior was found to be significant. It was pointed out that the mother, due to her general presence in the home, becomes the major sex role model for the children. Studies by Goldberg and Lewis (57) and McCarthy (58) found that boys and girls were treated differently within the home. They projected their findings by stating that the differential treatment at home is similar to that manifested later in school. Identification with parent, social stratification, and degree of sex role identification, all effect the sex role differences.

Relating to school environment, the overwhelming majority of studies indicated the lack of concern for boys' needs. Criscuolo (12) summarized the problem by stating that the best type of reading instruction may be given, but if sex differences in learning are overlooked, the best results may not be achieved.

Only limited materials were found relating sex differences to the reading task. Jarvis (103) and Peltier (104) pointed out that comprehension was generally found to be superior among girls, although high Intelligence Quotient boys tended to be equal to their girl counterpart. In vocabulary studies, research indicated that boys might have a slight but not significant superiority over girls..

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