

A COMPARISON OF MALE AND FEMALE TEACHERS' APPROVAL AND
DISAPPROVAL INTERACTIONS WITH CHILDREN

DISSERTATION

Presented to the Graduate Council of the
North Texas State University in Partial
Fulfillment of the Requirements

For the Degree of

DOCTOR OF PHILOSOPHY

By

Jimmy A. Gage, B. A., M. Ed.

Denton, Texas

August, 1969

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CHAPTER I

INTRODUCTION

Our society is committed to the idea of individual differences among all people by research, by observation, and by personal opinion. As educators, we speak strongly about respecting differences among children and about gearing our educational procedures to accord with these individual differences.

There is an area of individual differences, however, that is often ignored or dealt with in vague generalities. These are the differences in our expectations for boys and girls and in the stereotypes we build up around these expectations. These are the differences in the ways teachers and other adults react to boy/girl behavior, assess achievement, offer guidance and predict future behavior.

Research indicates the many ways in which boys and girls differ both in inherited traits and in ways in which their environment works upon innate differences to accentuate and direct the two sexes along different developmental paths. In thousands of implicit and explicit ways, our culture insists that boys behave like boys and that girls behave like girls. The process begins early and continues throughout life.

According to Waetjen and Grambs (7), however, in the usual school situation there is the expectation that boys and girls will behave the same--same in general deportment, same in modes of learning, and same in the significance they perceive in the curriculum content under consideration.

Statement of the Problem

This study was designed to determine the relationships between three variables in fifth- and sixth-grade classroom verbal interactions. These variables include sex of teacher, sex of pupil, and approval/disapproval interactions between teacher and pupil.

The primary purpose of this study was to determine the relative amount of difference between male and female teachers in their approval and disapproval interactions with boys and girls in the classroom.

The sub-purposes include the following:

1. To determine whether female teachers have more disapproval interactions with boys than do male teachers.
2. To determine whether female teachers have more approval interactions with girls than do male teachers.
3. To determine whether female teachers have more approval/disapproval interactions with pupils than do male teachers.

4. To determine whether boys are involved in more total approval/disapproval interactions than girls.

5. To determine whether pupils recognize those classmates who are involved in the most disapproval interactions.

Hypotheses

Based on the stated purposes and the theoretical and empirical background discussed in the following section, the present study investigated the following hypotheses:

Hypothesis 1. Female teachers will have significantly more disapproval interactions with boys than with girls.

Hypothesis 2. Female teachers will have significantly more approval interactions with girls than with boys.

Hypothesis 3. Male teachers will have significantly more approval interactions with boys than will female teachers.

Hypothesis 4. Male teachers will have significantly more disapproval interactions with girls than will female teachers.

Hypothesis 5. Boys will be involved in significantly more approval/disapproval interactions than will girls.

Hypothesis 6. Pupils will recognize that boys are involved in significantly more disapproval interactions than girls in those classrooms where boys actually are involved in more disapproval interactions.

Significance of the Problem

If our schools function as institutions which ignore sex differences in a society that demands differentiation according to sex, then we may be touching on the basis for some of the underachievement and learning inefficiency that is apparent. No one questions the fact that girls mature sooner than boys. In our public school systems, however, there is little or no recognition of this developmental age difference between the sexes and little or no planning for the variations in the biosocial readiness of children to learn how to learn and how to behave.

One of the important developmental tasks facing children of elementary school age is the adoption and maintenance of a sex role which will eventually help them to reach a sense of real identity. In the writings of those seeking insight into sex-role learnings, the concept of identification consistently recurs. This notion suggests that the child learns the appropriate role through identifying himself with an adult. When this process is interfered with or inappropriate models are selected, then the learning of the proper sex role is hampered and, as Waetjen and Grambs (7) argue, later personal crises and difficulties result.

The process of sex-role identification is facilitated for girls in the elementary school because their models, the

teachers, are almost always female. The most recent available figures from the National Education Association (4) show that the ratio of male to female teachers in the elementary school is about one to nine, with most men being found in the upper grades. This preponderance of feminine control in the classroom may be a hindrance to the development of sex-role identification for some boys. It may also be a reason for many of the stereotypes with which we label boys and their schooling.

In their preference for conformity, women teachers tend to scold disorderly boys much more often and much more harshly than they do girls. But, say Sears and Feldman (6), this often only leads to greater aggressiveness by the boys. Partly because of this, Bentzen (2) found in a review of research that at least twice as many boys as girls are reported to principals for learning and behavior disorders. Nearly two-thirds of all grade repeaters are boys. Three times as many boys as girls develop stuttering problems.

Grambs and Waetjen (3) insist that a basic problem is that women literally do not know that they use words differently from men. They may not be aware that they value neatness and cleanliness above intellectual initiative, and tend to be not only more prejudiced than men but more dogmatic about their prejudices.

The very fact of his small minority renders research on the male elementary school teacher as virtually non-existent. The only studies which cast any light on the male teacher's role are those contrasting men and women teachers on a few characteristics.

Williams (8) believes that men tend to be less prejudiced, on the whole, than women. In addition, research by Anderson (1) indicates that intelligent males are less dogmatic than intelligent females. Ryans' (5) study of teacher characteristics involving a national sample revealed that men were less responsible and businesslike in classroom behavior; more favorable toward democratic classroom practices; more inclined toward permissive, child-centered educational viewpoints; and more emotionally stable than women.

The possibility of the existence of these differences between male and female teachers, as well as the possible effects these differences might have on boys and girls in the elementary classroom, formed the basis for the present study.

Definition of Terms

Approval interactions are statements which accept, praise, or encourage student action or behavior; nodding head or saying "um hm" or "go on" are included. Also included are statements which clarify feelings, ideas or suggestions in a nonthreatening manner.

Disapproval interactions are statements intended to change student action or behavior from nonacceptable to acceptable pattern; criticism, reproof, or blame for behavior or attitude.

Interaction analysis: A systematic classroom observational and instructional technique which quantifies with fair reliability selected qualitative aspects of spontaneous verbal behavior.

Interaction categories: The ten verbal categories of the Minnesota System of Interaction Analysis which are used for the purpose of designating teacher-pupil interaction. See Figure 1 in Chapter III for a description of the categories.

Verbal behavior: Conversation in the classroom in which the teacher and/or pupil are involved.

Basic Assumptions

Assumptions of this study included the following:

1. That sex of the teacher and sex of the pupil are major determinants in the distribution of approval/disapproval interactions among children in the elementary classroom.
2. That the most significant influence in the classroom is that of the teacher.
3. That the verbal behavior of an individual is an adequate sample of his total classroom behavior.
4. That perceptions of appropriate sex-role behavior are most consistently reinforced by the same-sex teacher.

5. That variant teacher behavior can be identified in a reliably objective manner by a trained observer.

6. That having children nominate their classmates to fill certain teacher approval/disapproval descriptions provides data that will be positively related to patterns of teacher approval/disapproval as determined by an impartial adult observer.

7. That variables uncontrolled by matching will be normally distributed so as not to contaminate the findings.

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CHAPTER II

SURVEY OF THE LITERATURE

A survey of related literature will be presented in five sections: (1) teacher understanding of pupil behavior; (2) father-absence and its relation to sex-role identification; (3) children's perceptions and teacher attitudes and behaviors; (4) teacher approval and disapproval of children, and; (5) synthesis of related literature.

Teacher Understanding of Pupil Behavior

It has long been recognized as important for teachers to have an understanding of the child and how he develops. Numerous investigations have shown that children reaped significant benefits when teachers increased their understanding of children's behavior.

A study that is both a representative and well-known example is one by Ojeman and Wilkinson (10) which sought to determine the effect of increased teacher's understanding of pupil behavior on pupil growth. An experimental and control group were equated in terms of chronological age, scores on the Otis Group Intelligence Test, and achievement of the previous year. Comparisons of the experimental and control groups were made in the areas of school achievement, selected

attitudes, personality conflicts, and certain ratings of pupil adjustments. In addition, personality and environmental data were obtained and made available to the teachers, who were given rather extended suggestions as to their meaning and use. The data obtained in this study were consistent in showing that when teachers learn to know their pupils as personalities in their respective environments, teachers tend to become more effective guides for learning and their pupils achieve more in academic areas.

Support for the belief that teachers need assistance in developing understandings of child behavior may be seen in a study by Snyder (13) which reviewed the research dealing with emotional maladjustment of the teacher and its effect on the pupil. His review concluded that most teachers appeared to be concerned with disturbances of classroom routine and were unaware of the signs of maladjustment.

Additional support for the need of teacher education in child development may be found in the earlier work of Wickman (16), and a follow-up study by Mitchell (9). Mitchell's later study consisted of having teachers and mental hygienists rate children in grades five and six on fifty-five traits. The rating scale was sent to seventy-six mental hygienists in seventeen states. Three hundred and ninety-five teachers also made the ratings. Mitchell found, as had Wickman, that teachers

perceived aggressive nonconforming behavior as more serious than withdrawal behavior.

A study by Kaplan (5) has reported that the aggressive child was deemed annoying to almost three-fourths of the teachers in the sample. An unselected group of 150 experienced elementary teachers were asked to respond to the following question: "What problems or situations disturb or annoy you in your work and life as a teacher?" The teachers were asked to list the factors most troublesome to them with no limitation on the number of items to be listed. A check list was then prepared of 100 of the items which appeared more than once among those submitted. This check list was then submitted to another unselected group of 250 experienced elementary teachers. The behavior of children was found to be a primary source of distress to elementary school teachers, insofar as such behavior challenged the standards or functions of the teacher. These findings indicate that teachers may be relieved of a great deal of disturbance and annoyance if some means could be found to relieve them from emotional reactions to certain patterns of child behavior. It appears that teachers need help in broadening their understanding of what constitutes normal behavior for children.

It is also apparent that children need help in developing their social sex identities. And, as will be seen in the

following section, when appropriate adult models for sex-role identification are unavailable, children may be seriously affected.

Father Absence and Its Relation to Sex-Role Identification

In a culture such as ours in which the father is away from home during most of the child's waking hours, it appears obvious that both male and female children are more directly influenced by their mother. Many boys, however, will be influenced more by their fathers and peer culture than by the mother because of identification with the masculine role in our culture.

Several research studies have shown that prolonged father-absence, whether caused by war, occupation, divorce, or death, may have a serious effect on children's, and especially boys', sex-role identification and later life adjustment. Bach (2) attempted to determine whether the child's actual emotional adjustment to his own family was influenced by prolonged separation from the father. The father fantasies of twenty father-separated children, six to ten years of age, matched for age, sex, intelligence, and school and home background with a control group of twenty father-present children, were studied. The subjects for the investigation were samples taken from the families of military service men during World War II. The

experimental group consisted of children whose fathers had been away during the war, and the control group was from families whose fathers had been stationed in the Cleveland, Ohio, area. The father fantasies of the two groups were studied by means of a standardized projective doll play technique. Bach found that the father-separated children produced an idealistic and feminine fantasy picture of the father when compared with the control children who elaborated the father's aggressive tendencies. The nature of the maternal father-typing seemed to influence this difference.

Similar results were recorded in an investigation by Sears (12), who sought to determine the effect of father separation on preschool children's doll play aggression. Two twenty-minute projective doll play sessions were secured from 126 children enrolled in day care centers. Subjects consisted of sixty-six boys and sixty girls, each sex evenly distributed among ages three, four, and five years. Half of the children in each sex and age level were from homes in which the father was present, and half were from father-absent homes. The data were analyzed, in terms of frequency, with reference to age and sex differences as they related to the presence or absence of the father. It was found that boys from father-absent homes portrayed much less fantasy aggression than boys from father-present homes, while the father-absent girls portrayed slightly

more aggression than the father-present girls. This suggests that father-absence has a greater impact upon the development of a sex-role for boys than for girls, whose primary sex-role model is the mother.

An interesting study by Lynn (7) sought to determine the effects of father-absence on Norwegian boys and girls. His subjects consisted of eighty mother-child pairs from several neighboring small towns in a typical sailor district in Norway. Forty mother-child pairs were in the father-absent group (twenty-one boys and nineteen girls) and forty mother-child pairs were in the father-present group (twenty boys and twenty girls). The children were all drawn from the second grade of school. Fathers in the father-absent group were sailor and whaler officers who were away from home at least nine months out of the year, and sometimes as long as two years or more, with only infrequent and irregular periods at home. Father-present fathers were shop owners, high civil servants and office managers. The mothers were involved in a semi-structured interview and the children were administered the Structured Doll Play Test. The children were also asked to draw a picture of the family. The findings were as follows: (a) more father-absent boys than father-present boys showed immaturity; (b) being insecure in their identification with the father, father-absent boys showed stronger strivings toward father-identification than father-present boys; (c) father-absent boys reacted to their insecure

masculine-identification with compensatory masculinity, and;
(d) father-absent boys demonstrated poorer peer adjustment than father-present boys and than father-absent girls. Father-absence appeared to be the determining variable in producing the significant results.

No other adult outside of the child's immediate family occupies more of his time and is capable of greater influence than the child's teacher. Add to this the fact that for the elementary school child, his teacher is almost invariably a woman, and one can begin to see that this continued exposure to feminine control will undoubtedly have a lasting effect on the child. When the child is a boy, this effect may result in frustration, compensatory aggression, and/or poor social adjustment.

Is it possible that teachers, as parent-substitutes and adult-models, inhibit development of sex-role identification in children by reinforcing behavior perceived as appropriate, and by condemning behavior deemed as inappropriate? In attempting to cast some light on this question, the present study considers the inclusion of the sex of the pupil and the sex of the teacher (as parent-substitute) as variables of considerable importance.

Children's Perceptions and Teacher Attitudes and Behavior

Sex differences in various contexts have been emphasized both in this chapter and in Chapter I. It would therefore be

appropriate to consider this section in the light of sex differences and their influence upon children's perceptions of their teachers and school.

An early study by Tenenbaum (15) revealed some marked differences between boys and girls in their attitudes toward school. In attempting to discover the attitudes toward school as expressed by sixth and seventh grade children, Tenenbaum asked 639 children in three New York City elementary schools whether they liked school and why they liked or disliked school. Girls showed a greater liking for their teachers and for schools than did boys. Girls appeared more serious in their approach to school and appeared to have more fun in school. The findings suggest the possibility that the school is better adapted for girls than for boys or that girls are more conventional and conservative and less given to rebellion than boys. The children who disliked school mentioned the teachers as the cause of their dislike more frequently than they mentioned any other factor. It is also suggested that the teacher plays a vital and crucial role in creating favorable and unfavorable attitudes and that the relation between the teacher and the child appears at times to be anything but cordial. A search of subsequent research in this area does not reveal any study which refutes the findings of this one.

Further support of the importance of teacher influence on the child's perception of his school environment can be seen

in a unique investigation by Kagan (4). One hundred and twenty-one boys and 119 girls in a second grade sample and thirty-six boys and twenty-nine girls in a third grade sample, drawn from a primarily middle class environment, were taught three different nonsense syllables to represent the concepts Masculine, Feminine and Farm. Kagan was seeking to determine whether young children had a preference for labeling school as feminine or masculine. Children in the sample viewed common objects in the classroom as more clearly associated with feminity than with masculinity. This finding is not surprising in view of the fact that the child's definition of the sex-role characteristics of an object is derived from the differential frequency with which males and females are linked with the object. The typical primary school classroom is taught by a woman who works at the blackboard, passes out arithmetic, and teaches children to read books: hence, the basis for blackboard, book, page of arithmetic and school desk being labeled feminine more frequently than masculine. It is not unreasonable to argue that the disproportionate ratio of boys to girls with academic difficulties during the first four years of school is due in part to the young boy's categorization of school as a relatively feminine activity and therefore not appropriate to his sex-role.

In the family setting, a study by Ausubel (1) indicates that girls perceive themselves as significantly more accepted

and intrinsically valued than do boys. This researcher attempted to determine the relationship between children's perceptions of acceptance-rejection and intrinsic-extrinsic valuations by parents, on the one hand, and various components of their ego structure on the other. Forty fourth- and fifth-grade students, equally divided by sex and grade level, from a suburban Illinois community, were chosen as subjects. All subjects were white and resided in lower-middle and working-class neighborhoods. The children's perceptions were measured by means of structured thematic and story completion materials and by children's ratings of parent attitudes and behaviors. There was found to be a high correlation between perceptions of acceptance and intrinsic valuation.

This finding was hardly surprising in view of established, culturally-determined differences in social sex-roles. It is generally expected in our culture that adult males will acquire the major portion of their status on the basis of relative competence and performance ability. Females, on the other hand, can look forward throughout their entire life span to enjoying considerable derived status based solely on dependent personal relationships to others (parents, husband, adult children) who accept and value them for themselves apart from considerations of relative competence and ability. This attitudinal factor undoubtedly constitutes a major determinant of the characteristic

sex differences in personality development found in our culture.

The inclusion of a second variable, sex of the teacher, is considered justifiable on several grounds. There is a deficiency of research on sex differences between male and female teachers. This deficiency is due in part to the small percentage of male teachers found in the typical elementary school. Another reason is perhaps due to the belief held by many educators that there are more individual differences than there are differences between the sexes. Whether or not this last reason is a valid one seems to be a moot point because the importance of sex differences between male and female teachers remains largely unresolved. This may also be a reason for the lack of adequate consideration being given to social sex differences in the typical elementary classroom.

In a national survey of teacher characteristics, Ryans (11) found some interesting differences between men and women teachers. Tabulation of observations of a national sample consisting of some 1,400 teachers revealed that male elementary teachers seem to be less responsible, systematic, and businesslike in their classroom behavior than female teachers; male elementary teachers may be more favorable in attitude toward democratic classroom practices, more inclined toward permissive,

child-centered educational viewpoints, and more emotionally stable than women elementary teachers.

Granting that these characteristic differences may be slight, the possibility of their existence would serve as criterion in establishing a basis for the need to research the virtually unexplored areas of sex differences in children, teachers, and the interrelationships among these differences.

Teacher Approval and Disapproval of Children

The studies reviewed in this section, with one exception, deal with teacher approval and disapproval of children. Since they are closely akin to the problem under present consideration, the strengths and limitations of each investigation will be discussed.

There are several studies testing the hypothesis that boys receive a larger number of disapproval contacts from their teachers than girls do. The earliest of these, by Meyer and Thompson (8), was carried out by time sample observation spread over an entire school year. Three sixty-grade classes, all taught by women, were used. Relevant data were obtained by means of two independent techniques: thirty hours direct observation of teacher-pupil interactions in each classroom; and the use of a modification of the "Guess Who?" technique to determine if the children themselves were aware of any sex differences in their teacher's approval and disapproval

evaluations. In each classroom, the boys received significantly more disapproval or blame than the girls did. And interestingly enough, boys also received more praise or approval than did the girls, although this difference was significant in only one classroom.

As a possible explanation for boys receiving greater disapproval and blame, Meyer and Thompson suggest that the boys may have been more outwardly aggressive in the classroom than the girls were, and that the teachers may have been responding with counter-aggression. It was also suggested as a reason for boys receiving greater praise and approval that perhaps the teachers were trying to reduce the aggressive and reinforce the positive behavior of the boys by praising any positive behavior they exhibited. Either interpretation, or any one of the several others that could be offered, is highly speculative.

Analysis of the "Guess Who?" data shows that boys responded as if they usually receive more blame from teachers than did girls. Girls also responded as if boys received more teacher approval. This data also revealed that the children failed to recognize any definite dichotomy in the teacher's distribution of praise contacts.

The primary limitation of this study is in the small size of the sample. Generalizations based on the results of a study

whose sample included only seventy-eight children and three female teachers would be of doubtful reliability. It seems that a better sample would include a larger number of children and teachers and fewer hours of direct observation in each classroom.

Also of major importance is the sex of the teacher. Although the size of the teacher sample in this investigation would have rendered the significance of including both female and male teachers as virtually meaningless, it is nevertheless felt that had their study been larger and had included teachers of both sexes, the results would rest on more solid ground. The present study has attempted to overcome both of these limitations by including a considerably larger sample of children and teachers and by including an equal number of male and female teachers.

A larger study by Spaulding (14) produced results on disapproval similar to those mentioned in the previous study. Using twenty-one fourth- and sixth-grade classes (thirteen men and eight women teachers), teacher interaction with children was measured in each of four categories of teaching behavior: approval, instruction, listening to the child, and disapproval. These teachers interacted more with boys than with girls on every one of the four major categories. It thus appears that boys receive more of the teacher's active attention than girls do.

Further light on the disapproval question is shed by Spaulding's breakdown as to how, and for what, the disapproval was conveyed. Seven categories were devised for the aspect of behavior disapproval: violation of rules, personal qualities of the child, thoughtlessness, task mechanics, lack of knowledge or skill, lack of attention, and poor house-keeping. Lack of attention was the most frequent cause for disapproval: around 40 per cent for both boys and girls. But another 40 per cent of the total disapproval received by the girls was for lack of knowledge or skill, whereas when the boys were disapproved, only 26 per cent of the time was it for this reason. Boys considerably exceeded girls in the frequency of disapproval received for violation of rules: boys, 17 per cent; girls, 9 per cent.

Another difference appeared in the tone of voice used for disapproval. Teachers criticizing a boy were more likely to use a harsh or angry tone, while criticism of girls was more likely to be conveyed in a normal voice.

Although this study did include both male and female teacher subjects, no discrimination was made between male and female teacher's approval/disapproval interactions with children. Additional valuable information might have been gained had the Spaulding study made the distinction between male and female teachers in their interactions with children.

A third investigation of teacher interaction with boys and girls was done by Lippitt and Gold (6). All of the children in a sample which included thirty-nine elementary school classrooms, grades one through six, rated all their classmates on a four-point scale, indicating the degree to which the ratee was perceived as able to get others to do what he wanted them to do. The resulting stratification was called the social-power structure of the classroom. A partial correlation program was carried out for four different social structures in each classroom: the social-power structure; the affective (like and dislike) structure; the expertness structure; and the coerceability (ability to use physical coercion) structure. Generally, teachers made more supportive remarks to girls and more critical remarks to boys. However, when the children were divided as to whether they were judged high or low on social power (the ability to get other children to follow) striking sex differences emerged in the low social-power groups. Teachers were much more supportive, and less critical, of low power girls than low power boys.

Limitations of this study, insofar as the present study is concerned, relate to the fact that results and implications were interpreted as they affect mental health in the classroom, and that no distinction concerning sex of the teacher was made.

The final study to be considered in this section does not deal primarily with teacher-pupil interactions. It is included at this point because it offers some contrasts between men and women teachers in their dealings with pupils. In this study Carter (3) attempted to arrive at some answers to the following question: With intelligence held constant, what is the relationship between the sex of the student and the sex of the teacher in the assignment of marks in beginning algebra? The subjects were 235 pupils taking algebra for the first time. One hundred and thirty-five were boys and 100 were girls. Subjects were in nine classes, four taught by women and five taught by men. All students were given a standardized algebra test and the Otis Quick Scoring Mental Ability Test. The educational training, age, and length of teaching experience of each teacher was almost identical. It was found that (a) in all instances, the girls receive higher average marks than do the boys; (b) the indication is that men assign lower marks to boys and to girls than do women teachers; and (c) more specifically, the data show that boys are given lower average marks than are girls, regardless of the sex of the teacher assigning the marks; but marks assigned by men are lower than those assigned by women. Consequently, boys get the lowest average marks when those marks

are assigned by men. Girls, on the other hand, get the highest marks when those marks are assigned by women teachers.

It was concluded that differences in assigned marks generally gave the advantage to the girls. It was made clear that girls were no more intelligent, did not know any more algebra, but did receive higher marks. Regardless of whether the teacher was a man or a woman, boys were penalized in the assignment of marks. The penalty was not so great if the teacher was a man. There was a higher correlation between achievement and teacher's marks when the teacher was a man. The data indicated that there is a slight overrating of girls generally, and an underrating of boys, especially by women teachers.

The implications which were suggested by this investigation would necessarily have limited application to a study of teacher approval/disapproval interactions with children. When viewed in the light of implications from the other studies in this chapter, however, one can perhaps begin to see the emergence of some unresolved discrepancies in the way we deal with children in school. Hopefully, the results of the present investigation will supply some additional insights into the area of sex differences and their effect upon teacher-pupil interactions.

The present study has sought to make a distinct contribution to research in this area by including in its population

sample a larger group of teachers and pupils than has previously been done, by including an equal number of male and female teachers, and by analyzing the collected data in terms of sex differences of both pupils and teachers.

Synthesis

A summary of research related to the study of teacher approval and disapproval interactions with their pupils reveals that when teachers learn to know their pupils as personalities they become more effective guides for learning (10). Most teachers, however, appear to be more concerned with disturbances in classroom routine and are relatively unaware of signs of maladjustment in children (13). This is seen in the fact that many teachers perceive aggressive nonconforming behavior as more serious than withdrawal behavior (9, 15), and are annoyed by this aggressive behavior (5).

Father-absence was discussed as it related to the development of sex-role identities in children. Doll play fantasies revealed that children whose fathers are absent are more feminine and less aggressive than children whose fathers are present (2), and that father-absence has a greater impact upon sex-role development of boys than of girls (12). Father-absent boys also showed immaturity, poorer peer adjustment, and reacted with more compensatory masculinity than did father-present boys (7). Continued absence of father or father-substitute

influence on children, and especially on boys, may seriously affect social and psychological adjustment.

It was suggested that school is better adapted for girls than for boys (15), possibly because children view common classroom objects as being more feminine than masculine (4).

In the family setting, girls perceived themselves as significantly more accepted and intrinsically valued than did boys. This was explained in terms of the established, culturally-determined differences in social sex-roles (1).

A national teacher survey revealed that men are less responsible, systematic, and businesslike than women teachers. It was also revealed that men are more inclined toward democratic classroom procedures, more permissive toward child-centered views, and more emotionally stable (11).

The studies involving teacher approval and disapproval revealed that boys receive disapproval and also more approval than girls (8), signifying that teachers may interact more with boys than with girls in all categories (14). Both boys and girls recognize that boys receive more disapproval from their teachers (8). It was also found that they receive more critical remarks from teachers than do girls, and that the criticism toward boys was more harsh in tone (6, 14).

A study dealing with teacher marks revealed that girls receive higher marks than boys from both men and women, and

that men assign lower marks to boys and girls than do women. There seemed to be a slight overrating of girls and an under-rating of boys, especially by women teachers (3).

Limitations of the studies dealing with teacher approval and disapproval were found in the small size of the samples used (8), failure to include teachers of both sexes in the sample (6, 8), and failure to distinguish between teachers' sex in analyzing the data (14).

The thread which weaves together the studies reviewed in this chapter is the continual failure of parents and teachers to recognize the importance of social sex-differences in children, and the failure of virtually all concerned to provide adequate sex-role identification models for boys.

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CHAPTER III

ORGANIZATION AND DESIGN OF THE STUDY

The purpose of this study was to determine the relative amount of difference between male and female teachers in their approval and disapproval interactions with boys and girls in the classroom. The purpose of this chapter is to describe the methods employed in the execution of the study and the manner in which the subjects were selected and matched. The entire procedure of the investigation of the problem is also described.

Selection and Description of the Subjects

The data pertinent to this investigation were collected in thirteen elementary schools located in five suburban communities in the north central part of a southwestern state. The population of the communities which these schools served was approximately 70,000. All socio-economic levels were represented in these communities, but lower-middle class predominated.

The subjects of this study were forty-four fifth- and sixth-grade elementary school teachers divided equally into male and female groups and matched as nearly as possible on the following criteria: age, teaching experience, educational background, marital status, and number of dependent children. Because of the disproportionate ratio of male to female elementary

teachers, the male teacher group consisted of the total male elementary teacher population of the thirteen elementary schools involved in this study. The female teacher group was drawn from the same thirteen schools and consisted of those twenty-two teachers who most nearly matched their male counterparts on all criteria. A breakdown of teacher personnel data may be seen in Table I. The pupil subjects totaled 1,313 (646 boys and 667 girls) and consisted of all pupils enrolled in subject teachers' classes during the period of data collection. All classes were self-contained groups, but had special teachers for music. No music classes were observed.

The age range of the male teacher group was from 25 years to 62 years, with a Mean of 36.81 years. The age range of the female teacher group was from 24 years to 58 years, with a Mean of 36.27 years. Teachers' ages were figured from the day data collection began, November 1, 1968.

The range in number of years of teaching experience for the male group was from 0 to 26 years, with the Mean being 7.41 years. For the female group the range was from 1 to 33 years, with the Mean being 7.95 years. The number of years of teaching experience was computed from September 1, 1968, with no credit being given for teaching experience during the current year.

All teachers involved in this study held at least a bachelor's degree from an accredited college or university. Each

TABLE I

TEACHER PERSONNEL DATA

Pairs	Age		Teaching Experience		Educational Background	
	M	F	M	F	M	F
A	25	24	3	2	M.Ed.	B.S.
B	25	26	2	2	B.S.	B.S.
C	26	26	6	4	M.Ed.	M.Ed.
D	27	27	1	2	B.S.	B.S.
E	27	28	4	5	B.S.	B.S.
F	29	29	5	5	M.Ed.	M.Ed.
G	27	26	5	4	B.S.	B.S.
H	29	29	6	6	M.Ed.	B.S.
I	28	27	5	4	B.S.	B.S.
J	28	25	0	1	B.S.	B.S.
K	32	31	2	7	B.S.	B.A.
L	33	34	12	7	M.Ed.	M.Ed.
M	35	35	6	11	M.Ed.	B.S.
N	37	37	3	5	B.S.	B.S.
O	41	40	14	7	M.Ed.	M.Ed.
P	47	45	14	12	M.Ed.	M.Ed.
Q	46	48	3	6	B.S.	B.S.
R	48	49	13	12	M.Ed.	M.Ed.
S	49	49	4	6	B.S.	M.Ed.
T	53	50	13	9	B.S.	B.S.
U	57	55	26	33	M.Ed.	M.Ed.
V	61	58	16	25	M.Ed.	M.Ed.
Mean or %	36.81	36.27	7.41	7.95	50%	40.91%
Totals	810	798	163	175	11/22	9/22
	t = 1.78		t = .675		t = 1.34	

*Significant at .05 level.

TABLE I--Continued

Marital Status		No. of Dependent Children		Class Enrollment		Grade Level	
M	F	M	F	M	F	M	F
M	M	0	0	29	33	5	5
M	M	0	0	28	29	6	5
S	S	0	0	34	30	5	6
S	M	1	1	31	28	6	6
M	M	1	1	30	27	6	5
S	S	0	0	28	27	5	6
M	M	2	0	35	31	6	6
M	M	2	2	28	33	5	5
M	M	0	0	28	29	6	6
M	M	2	1	27	29	6	5
M	M	2	2	32	31	5	6
M	M	1	2	30	29	6	5
M	M	2	3	29	32	6	5
M	M	2	4	22	28	5	5
S	M	0	2	35	29	5	6
M	M	0	2	28	33	5	6
M	M	0	1	29	27	6	5
M	M	3	2	29	28	6	6
M	M	4	3	33	36	6	5
M	M	0	0	33	30	6	5
M	M	0	0	32	28	6	6
M	M	0	0	28	28	6	5
86.36	90.90	1.00	1.18	29.91	29.77		
19/22	20/22	22/22	26/22	658	655		
t = 1.49		t = 2.12*					

teacher also held a professional elementary certificate granted by the state education agency. No teacher was teaching on a temporary or emergency certificate nor was any teacher teaching on a substitute basis for the regular classroom teacher. Eleven (50 per cent) of the male teacher group held a master's degree in education. Nine out of 22 (40.91 per cent) of the female teacher group held a Master of Education degree.

The marital status of the teacher groups was as follows: nineteen out of twenty-two (86.36 per cent) of the male teachers were married; twenty out of twenty-two (90.90 per cent) of the female teachers were married.

Eleven men and thirteen women had dependent children. The male teacher group had twenty-two dependent children and female teachers had twenty-six dependent children. Children who were grown and not living with their parents were not counted.

The Mean class enrollment for men teachers was 29.91 pupils and for women the Mean enrollment was 29.77.

Eight men and twelve women taught fifth-grade classes. Fourteen men and ten women were teachers of sixth-grade classes.

Description of the Instruments Used

1. Collection of data appropriate to hypotheses one through five was made by two trained observers using the time sample method of systematic classroom observation. The instrument used

in the collection of data for these hypotheses was the Minnesota System of Interaction Analysis, developed by Ned A. Flanders (3).

Interaction analysis is an objective observational technique useful in classifying the verbal interaction between teachers and pupils. Within the system are ten categories which are to be memorized for the purpose of rapid categorization during an observation. The categories are (1) accepts feeling, (2) praises or encourages, (3) accepts or uses ideas of student, (4) asks questions, (5) lectures, (6) gives directions, (7) criticizes or justifies authority, (8) student-talk response, (9) student-talk initiation, and (10) silence or confusion. The ten categories are divided into two major divisions: teacher talk and student talk. Teacher talk is further divided into categories of influence: direct and indirect. See Figure 1 for a description of the categories.

To become adequately trained as an observer, Flanders (4) recommends that the observer memorize the categories and practice categorizing with audio tapes for a period of six hours prior to observing in live classrooms. A trained observer collects raw data of the teacher's verbal behavior by recording a category number representing the observed verbal behavior of the teacher every three seconds during the observation period. The numbers are recorded in sequence in a column. The observer is careful to preserve the sequence of numbers and after practice and

CATEGORIES FOR INTERACTION ANALYSIS

TALK	IN-DIRECT IN-FLUENCE	1.* ACCEPTS FEELING: accepts and clarifies the feeling tone of the students in a non-threatening manner. Feelings may be positive or negative. Predicting or recalling feelings are included.
		2.* PRAISES OR ENCOURAGES: praises or encourages student action or behavior. Jokes that release tension, not at the expense of another individual, nodding head or saying "uh huh?" or "go on" are included.
		3.* ACCEPTS OR USES IDEAS OF STUDENT: clarifying, building or developing ideas or suggestions by the student. As teacher brings more of his own ideas into play, shift to category five.
		4.* ASKS QUESTIONS: asking a question about a content or procedure with the intent that a student answer.
TEACHER	DIRECT IN-FLUENCE	5.* LECTURES: giving facts or opinions about content or procedure; expressing his own ideas; asking rhetorical questions.
		6.* GIVES DIRECTION: giving directions, commands, or orders with which a student is expected to comply.
		7.* CRITICIZES OR JUSTIFIES AUTHORITY: statements intended to change student behavior from nonacceptable to acceptable pattern; bawling someone out; stating why the teacher is doing what he is doing; extreme self-reference.
STUDENT TALK		8.* STUDENT TALK RESPONSE: talk by students in response to teacher. Teacher initiates the contact or solicits student statement.
		9.* STUDENT TALK-INITIATION: talk by students, which they initiate. If "calling on" student is only to indicate who may talk next, observer must decide whether student wanted to talk. If he did, use this category.
		10.* SILENCE OR CONFUSION: pauses, short periods of silence, and periods of confusion in which communication cannot be understood by the observer.

*There is no scale implied by these numbers.
Fig. 1--Categories for Interaction Analysis

experience, he will tend to develop a tempo of recording as well as accuracy. Accuracy and sequence are most important, however, since tempo can always be developed (4).

The observer then tabulates the data in a 10 x 10 matrix, one pair at a time, using the first number to locate the row and the second to locate the column (4). When an observer has categorized the verbal interaction of a class, the numbers may appear as follows:

10
5
5
5
4
8
2
4
8
7
5
5
10

After the numbers have been recorded, the observer constructs a matrix (see Table II) which is a 10 x 10 grid, ten columns wide and ten rows high. The first number of each pair of numbers is used to indicate the row, and the second number is used to locate the column. To construct the matrix, the sequence will be treated as follows:

1st pair	(10	2nd pair
	5)	
3rd pair	(5	4th pair
	5)	
5th pair	(4	6th pair
	8)	
7th pair	(2	8th pair
	4)	
9th pair	(8	10th pair
	7)	
11th pair	(5	12th pair
	5)	
	10	

In Table II, cell 4-8 (read "four-eight") represents the shift from the teacher's question to the pupil's response; cell 8-2 represents the shift from the pupil's answer to praise or approval by the teacher; cell 2-4 represents the shift from praise or approval of a pupil's response by the teacher to another question by the teacher. In this manner a matrix is constructed which presents a graphic picture of a teaching episode. Percentages of talk in cells, areas, columns, and combinations may be calculated.

For the purposes of the present study, Flanders' system of interaction analysis was modified by a slight rearrangement of the tally process in order to denote sex of pupil in categories 1, 2, 3, and 7 of teacher/pupil interaction. Categories 1, 2, and 3 represent teacher acceptance or approval of pupil behavior or feelings, and category 7 represents teacher

TABLE II
SAMPLE INTERACTION MATRIX

Rows	Columns										Total
	1	2	3	4	5	6	7	8	9	10	
1											0
2				1							1
3											0
4								2			2
5				1	3					1	5
6											0
7					1						1
8		1					1				2
9											0
10					1						1
Total	0	1	0	2	5	0	1	2	0	1	12

disapproval or criticism for pupil behavior. The modified tally process may appear as follows:

	10	
	5	
	5	
	5	
	4	
	8	
2		
	4	
	8	
		7
	5	
	5	
	10	

The column on the left, in which the 2 appears, is reserved for male pupils who have received a 1, 2, 3, or 7 interaction category from the teacher. The middle column, in which the majority of the number categories appear, is the same as the normal Flanders system of interaction analysis. The column on the right, in which the 7 appears, is reserved for female pupils who have received a 1, 2, 3, or 7 interaction from the teacher. By using this modification an observer can identify the amount of approval and disapproval interaction a teacher has with the boys and girls in the classroom. In the above example, the 8-2 cell represents a male pupil's response to the teacher's question, and a praise or approval response from the teacher for the pupil's probable correct answer to the question. The 8-7 represents a female pupil's answer to the teacher's question, and a

criticism or disapproval from the teacher for a probable incorrect answer by a girl.

2. The instrument used in the collection of data for hypothesis number six was the "Guess Who?" technique employed in the early character-inquiry experiments conducted by Hartshorne and May (7) and later refined and modified by de Groat and Thompson (2) and Meyer and Thompson (9).

The "Guess Who?" technique used in this study required the child to nominate fellow class members for a number of situations in which children are receiving approval or disapproval from their teacher for some behavior. The behavior descriptions have been selected on the basis of their familiarity to children and contain a fairly representative sample of situations in which children typically receive either approval or disapproval from their teachers. In the classrooms tested for hypothesis number six, each child was required to list the names of four of his classmates whom he thought fit each of the behavior descriptions most accurately. Examples of the behavior descriptions are as follows:

Teacher Approval

Here is someone whose work is often put up on the bulletin board.

Here is someone whose work is often pointed out as being very neat.

Here is someone who is praised for doing extra work, or for bringing things to school for the class to see.

Teacher Disapproval

Here is someone whom the teacher often scolds for whispering.

Here is someone who is often scolded by the teacher because he or she pays little attention to what is going on in class.

Here is someone whom the teacher often points out as wasting too much time.

A total of twenty-four approval/disapproval situations, twelve for each category, were scrambled together in a booklet and given to each child, who wrote down the names of children whom they thought fit the descriptions. Appendix A contains a copy of the "Guess Who?" technique used in this study.

This approach to the measurement of the teacher approval/disapproval atmosphere experienced by pupils has the advantages of being relatively simple to administer and score, of being interesting to the pupils, and of providing a fairly direct evaluation of social-incentive conditions in the classroom as children see them. This latter advantage is important in that it expresses one aspect of the child's reaction to their companions as well as reflecting to some degree teacher approval/disapproval conditions as an impartial adult observer might see them.

Procedure for Training Observers

The two persons who collected the data for this study had a background of teaching experience at the elementary level.

They were trained in the use of the Flanders system of interaction analysis for recording verbal teacher behavior. The historical development of the category methods was shared through discussion, film strips, and the published literature. Audio tapes prepared specifically for observer training by Flanders (5) served as practice material. Following the development of observer skill in tabulating verbal behavior using the modified form developed for this study (see Appendix B), practice sessions in several different classrooms were held. Observer reliability of .84 to .95 and .82 to .94 was established among the two observers prior to the beginning of data collection. Observer reliability was periodically checked throughout the period of data collection and at no time did the reliability coefficient fall below the .86 level.

The two observers worked independently in classroom observations which varied in length from six minutes to forty minutes. Each observer made at least one observation in every classroom used in this study.

A part-time secretary was trained to compile the matrices from the tallies of recorded observations. A matrix was made from each recorded classroom observation. A master matrix was then compiled for each teacher. From these matrices a master matrix for male teachers and a master matrix for female teachers

was compiled. The relative values of the master matrices comprised the data used in hypotheses one through five.

Collection of the Data

The superintendent of the schools involved in the study was contacted by letter for the purpose of obtaining permission to conduct research in the schools. Complete details of the study, including a research proposal, was submitted to the superintendent in order to familiarize him with procedures of the study. The superintendent gave the investigator permission to contact the principals and teachers for the purpose of obtaining their permission to conduct research in the schools.

The principals of the thirteen schools in which the data were collected were contacted individually and were told that the investigators wanted to observe certain fifth and sixth grade teachers to obtain data related to classroom verbal interaction between teachers and pupils. The principals unani- mously agreed to allow the data to be collected in their respective schools.

All teachers participating in the study were contacted personally and were told that they were to be observed in order to study certain classroom verbal interactions. They were told that no one would be named or singled out in the study, nor would the results be made available to anyone

connected with their particular school situation unless agreed upon by all concerned. It was further explained that no teacher would be observed in order to evaluate the quality or effectiveness of his or her teaching and that no value judgments would be made concerning the observed interactions in the teacher's classroom. No teacher who was asked to participate in the study refused permission to observe in his or her classroom after the above explanation was given.

At least four observations were made in each of the forty-four classrooms in which verbal interaction data were collected. The observations were relatively evenly spaced throughout the four-month period of data collection, and the time of day of the observations was randomized in order to sample a wide range of subjects taught by each teacher. Each teacher was observed for at least ninety minutes during which verbal interaction data were collected. Actual classroom observation time was considerably longer, however, since no data were collected during times when the regular teacher might not have been teaching, or when the nature of the subject matter did not call for frequent or regular verbal interactions between teacher and pupil. For example, no interaction data were collected during the times for music or physical education, and only infrequently were observations recorded when the subject of art was being taught. In addition, no data were

collected during times when normal classroom routine might have been disrupted or distorted, such as immediately before or after a holiday, special assembly program, field trip or during the time when a test was being administered. The observations which were recorded therefore reflect a higher percentage of teacher-pupil verbal interaction than would normally be found in an unselective, random sampling of classroom verbal behavior (see Table III). It was felt that by being selective in the sampling of classroom verbal interaction that a more useful and meaningful data collection was made.

During the last week of data collection a quick count of the total approval/disapproval interactions (categories 1, 2, 3, and 7) was made to determine which classrooms would be used to test hypothesis number six. It was found that in twenty-eight classrooms boys had received at least twice as many disapproval interactions (category 7) as had girls. In four classrooms girls received more disapproval interactions than boys, but the difference in the number of disapproval interactions between boys and girls was so slight that they were not considered significant.

TABLE III
DISTRIBUTION FREQUENCY OF OBSERVATIONS BY
SUBJECT AND LENGTH OF TIME

Subject	No. of Observations	*Length of Observations	% of Total Observation Time
Social Studies	41	1011 min.	23.37
Math	40	912 min.	21.08
Language Arts	37	818 min.	18.91
Science	26	568 min.	13.13
Reading	23	503 min.	11.63
Spelling	13	263 min.	6.08
Health	7	187 min.	4.32
Art	3	64 min.	1.48
Totals	190	4326 min.	100%

*The Mean length of each observation 22.76 min.

The names of the twenty-eight teachers in whose classrooms boys had received twice as many disapproval interactions as girls were written on separate pieces of paper and placed in a hat. Ten names were withdrawn from the hat. The classrooms of these ten teachers provided the data pertinent to hypothesis number six.

After all observational data had been collected each of these ten teachers was asked for permission to administer the "Guess Who?" technique to their pupils. The teachers were told that the

purpose of the "Guess Who?" technique was to sample the social control climate in the classroom as the children see it. Permission to administer the instrument was granted by all ten teachers, and the "Guess Who?" technique was administered in each classroom while the investigator was present.

Statistical Treatment of the Data

The data obtained from a tabulation of the master matrices for the total male and female teacher groups and from the "Guess Who?" technique were processed at the computer center at North Texas State University. The .01 level of significance was used as the point of rejection of the null hypothesis.

Due to the directional nature of the matrix data, the sub-areas of the matrix were uneven in shape, thus prohibiting the use of Darwin's Chi-square (1) method of comparing two matrices (to use Darwin's method a matrix must be square).

To test for differences between the sub-areas of the master matrices of the male and female teacher groups the master matrices were first converted to percentages, thus placing them on an equal basis mathematically. After the master matrices were converted to percentages, specific areas (categories 1, 2, 3, and 7) were compared by using Garrett's test (6, p. 135) for the significance of the difference between two percentages.

The significance of the difference between the percentages of two groups who exhibit a given behavior may be tested against

the null hypothesis (6, p. 136). The formula for the standard error of a percentage difference is

$$SE_{D\%} = \sqrt{PQ \left(\frac{1}{N_1} + \frac{1}{N_2} \right)}$$

(SE of the difference between two independent or uncorrelated percentages), in which

P = meaning of the percentages in the two groups exhibiting the behavior,

Q = (1 - P),

N₁ = number of cases in group 1,

N₂ = number of cases in group 2,

D = the difference between two per cents.

The pooled estimate of "P" is found by the formula

$$\frac{N_1 P_1 + N_2 P_2}{N_1 + N_2} .$$

Statistical treatment of the "Guess Who?" data was by the chi square (8) general formula, which is

$$\chi^2 = \frac{(O - E)^2}{E} ,$$

where O = an observed frequency and
E = an expected or theoretical frequency.

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CHAPTER IV

PRESENTATION AND ANALYSIS OF DATA

This study was designed to determine the relationships between three variables in fifth- and sixth-grade classroom verbal interactions. These variables include sex of teacher, sex of pupil, and approval/disapproval interactions between teacher and pupil. The primary purpose was to determine the relative amount of difference between male and female teachers in their approval and disapproval interactions with boys and girls in the classroom. The teacher subjects were forty-four fifth- and sixth-grade elementary teachers divided equally between male and female groups and matched on several criteria. The pupil subjects were those pupils enrolled in subject teachers' classes during the period of data collection.

The Flanders system of interaction analysis was used to categorize observed classroom verbal behavior. A "Guess Who?" technique was administered to the pupils in ten classrooms and provided data relating to social-incentive conditions in the classroom as children see them. In addition, certain data were considered which were related to the hypotheses and to the problem of the study.

This chapter is presented in three sections as follows:
(1) a section dealing with an analysis of the data for each

hypothesis, (2) a section concerned with an analysis of non-hypothesized data, and (3) a section summarizing the analysis of data.

Statistical Analysis of the Data

The basic statistical techniques used in the treatment of data were Garrett's (1) test of significance of the difference between two percentages, and the general Chi-square formula (2). The data were punched on cards and all statistical analyses were computed by the North Texas State University Computer Center. The .01 level of significance was designated as the point of rejection of the statistical null hypothesis.

The first two hypotheses related to approval/disapproval interactions between female teachers and the boys and girls in their classrooms. Hypothesis 1 stated that female teachers would have significantly more disapproval interactions with boys than with girls. Hypothesis 2 stated that female teachers would have significantly more approval interactions with girls than with boys. The data relative to Hypotheses 1 and 2 are presented in Table IV. The percentages shown represent the total per cent of approval and disapproval interactions received by the boys and the girls from female teachers.

TABLE IV
FEMALE TEACHERS' APPROVAL/DISAPPROVAL
INTERACTIONS WITH CHILDREN

Variable	Male Pupils (N=646)	Female Pupils (N=667)	<u>t</u>
Disapproval Interactions	76.38%	13.46%	35.49*
Approval Interactions	49.91%	42.10%	7.60*

*Significant at the .01 level.

The data for Hypothesis 1 yielded percentage differences in the amount of disapproval interactions received by boys and girls from female teachers that were extremely significant. The statistical null hypothesis was rejected and the research form of Hypothesis 1 that female teachers have significantly more disapproval interactions with boys than with girls was accepted.

The data for Hypothesis 2 yielded percentage differences in the amount of approval interactions received by boys and girls from female teachers that were also very significant. The statistical hypothesis of no difference was rejected, but the research hypothesis could not be accepted since the significant difference favored male pupils instead of female pupils.

Hypotheses 3 and 4 of this study were concerned with the comparative differences between male and female teachers in their approval and disapproval interactions with boys and girls. Hypothesis 3 stated that male teachers would have significantly more approval interactions with boys than would female teachers. Hypothesis 4 stated that male teachers would have significantly more disapproval interactions with girls than would female teachers. Table V presents the data relating to Hypotheses 3 and 4.

TABLE V
COMPARISON OF MALE AND FEMALE TEACHERS'
APPROVAL/DISAPPROVAL INTERACTIONS
WITH CHILDREN

Variable	Male Teachers (N=22)	Female Teachers (N=22)	<u>t</u>
Approval Interactions with Boys	60.97%	49.91%	11.29*
Disapproval Interactions with Girls	30.58%	13.46%	10.61*

*Significant at the .01 level.

Statistical data for Hypothesis 3 yielded differences that were very significant. The statistical null hypothesis was rejected and the research hypothesis that male teachers have more

approval interactions with boys than female teachers was accepted.

Statistical treatment of the data for Hypothesis 4 also produced percentage differences that were significant, thus permitting the rejection of the statistical hypothesis of no difference. The research hypothesis that male teachers have more disapproval interactions with girls than female teachers was accepted.

Hypothesis 5 was concerned with the total approval/disapproval interactions received by boys as compared with girls. Table VI contains data pertinent to this hypothesis.

TABLE VI
COMPARISON OF TOTAL APPROVAL/DISAPPROVAL INTERACTIONS
OF MALE AND FEMALE TEACHERS WITH
MALE AND FEMALE PUPILS

Groups	Male Pupils (N=646)	Female Pupils (N=667)	<u>t</u>
Male Teachers	60.38%	31.05%	30.33*
Female Teachers	55.95%	34.93%	23.67*
Totals	50.91%	33.16%	27.38*

*Significant at the .01 level.

Results of the statistical treatment of the data for Hypothesis 5 gave differences that were significant for both

male and female groups, as well as for the two groups combined. The statistical null hypothesis was rejected and the research hypothesis that boys are involved in more total approval/disapproval interactions than are girls was accepted.

Hypothesis 6 was concerned with whether the pupils themselves would recognize that boys are involved in more disapproval interactions than girls. Hypothesis 6 stated that pupils will recognize that boys are involved in significantly more disapproval interactions than girls in those classrooms where boys actually are involved in more disapproval interactions. The data relating to Hypothesis 6 are presented in Table VII. The numbers in the male and female pupil columns represent the total nominations for each of the twelve "Guess Who?" disapproval statements given to each sex in each of the ten classrooms tested.

Results of the statistical treatment of the data for Hypothesis 6 yielded significant differences for each of the ten classrooms tested. The composite totals for the ten classrooms yielded a very significant difference. The null hypothesis was rejected and the research hypothesis that pupils recognize that boys are involved in significantly more disapproval interactions than girls was accepted. Statistical

TABLE VII
 COMPARISON OF "GUESS WHO?" DISAPPROVAL NOMINATIONS
 BETWEEN MALE AND FEMALE PUPILS

Classroom	Male Pupil Nominations	Female Pupil Nominations	χ^2 (df=11)
1	756	148	24.81*
2	668	140	77.09*
3	913	83	96.98*
4	673	500	126.35*
5	300	282	86.86*
6	531	89	30.19*
7	553	77	45.11*
8	224	182	37.20*
9	520	333	79.10*
10	542	441	118.50*
Totals	5680	2275	145.62*

*Significant at the .01 level.

treatment and results of the "Guess Who?" approval nominations of male and female pupils are presented in the following section.

Analysis of Nonhypothesized Data

In addition to the analysis of data pertinent to the hypotheses formulated for this study, consideration was given to the analysis of supplementary data which might lend some added support to the results of the tests of significance of the hypotheses. Data accumulated in this study were analyzed in terms of whether male teachers have more disapproval interactions with boys or with girls. A second consideration was given to a comparison of the undifferentiated approval/disapproval interactions between male and female teachers. A third consideration focused on a comparison of the total approval/disapproval interactions between male and female teachers. Final consideration was given to a comparison between boys and girls on the approval nominations portion of the "Guess Who?" technique.

Table VIII presents data concerning a comparison of male teachers' disapproval interactions with boys and girls. Like their female counterparts, the male teachers in this study had significantly more disapproval interactions with the boys than with the girls in their classes.

TABLE VIII
 COMPARISON OF MALE TEACHERS'
 DISAPPROVAL INTERACTIONS
 WITH BOYS AND GIRLS

Variable	Male Pupils (N=646)	Female Pupils (N=667)	<u>t</u>
Disapproval Interactions	55.59%	30.59%	11.40*

*Significant at the .01 level.

The modified form of categorizing verbal behavior used in this study permitted the researcher to differentiate between boys and girls in the approval/disapproval categories. At times, however, approval/disapproval interactions between teacher and pupil were undifferentiated because the teacher interacted in an approving or disapproving manner with a group of pupils containing both boys and girls, or with the entire class. At these times the number representing the appropriate category was placed in the column reserved for the normal interaction analysis categories. Table IX contains data dealing with a comparison of undifferentiated approval/disapproval interactions between male and female teachers. The percentages given in this table represent percentages of the total approval/disapproval interactions of the male and female teachers. The minus signs shown in

Table IX and succeeding tables indicate a difference favoring the female teacher group.

TABLE IX
COMPARISON OF UNDIFFERENTIATED APPROVAL/DISAPPROVAL
INTERACTIONS BETWEEN MALE AND FEMALE TEACHERS

Variable	Male Teachers (N=22)	Female Teachers (N=22)	<u>t</u>
Approval Interactions	7.85%	7.99%	- .24
Disapproval Interactions	13.82%	10.16%	2.84*

*Significant at the .01 level.

Statistical analysis of data relating to undifferentiated approval interactions indicate that there was no significant difference between male and female teachers in this area of comparison. Analysis of data relating to undifferentiated disapproval interactions yielded differences that favored the male teacher group which were significant at the .01 level.

The data presented in Table X represent a comparison of the total approval/disapproval interactions between male and female teachers. The percentages given are the percentages of the approval/disapproval interactions as compared with the total verbal interactions for all categories of Flanders' interaction analysis.

TABLE X
COMPARISON OF TOTAL APPROVAL/DISAPPROVAL
INTERACTIONS BETWEEN MALE
AND FEMALE TEACHERS

Variable	Male Teachers (N=22)	Female Teachers (N=22)	<u>t</u>
Approval Interactions	10.21%	11.03%	- 3.87*
Disapproval Interactions	2.43%	3.68%	-10.56*
Total	12.64%	14.71%	- 8.76*

*Significant at the .01 level.

Results of data analysis concerning the total approval/disapproval interactions of the male and female teacher groups indicate that female teachers had significantly more approval interactions, more disapproval interactions, and more total approval/disapproval interactions with their pupils than did male teachers.

No hypothesis was formulated in this study concerning the approval nominations of boys and girls in the "Guess Who?" instrument. The reason for this omission was that earlier research relating to this area by Meyer and Thompson (3) had found significant differences between male and female pupils in the number of disapproval nominations received, but no differences in the amount of approval nominations received by

boys and girls from their classmates. Since the approval statements were an integral part of the "Guess Who?" instrument, these data were analyzed statistically along with the disapproval statements that formed the basis for the testing for significance of Hypothesis 6. The data relating to a comparison of the "Guess Who?" approval nominations between male and female pupils is presented in Table XI. The minus signs shown in this table represent a difference favoring the female pupils.

TABLE XI
COMPARISON OF "GUESS WHO?" APPROVAL
NOMINATIONS BETWEEN MALE
AND FEMALE PUPILS

Classroom	Male Pupil Nominations	Female Pupil Nominations	χ^2 (df=11)
1	313	539	- 56.90*
2	276	582	-126.66*
3	335	578	-117.41*
4	563	558	56.77*
5	152	677	- 66.39*
6	423	382	74.17*
7	172	435	-126.26*
8	435	288	14.14
9	99	301	- 39.65*
10	328	417	- 73.94*
Totals	3096	4757	-172.87*

*Significant at the .01 level.

Results of the statistical treatment of the data relevant to the "Guess Who?" approval nominations produced very significant differences in seven of the ten classrooms tested, as well as in the composite totals of the ten classrooms. In two classrooms boys were given significantly more approval nominations than were girls. These results indicate that pupils think that girls receive more approval from their teacher than do boys.

Summary of Data Analysis

The data obtained in this study from observations of classroom verbal interactions and from analysis of "Guess Who?" instrument data indicate several significant differences in the amount of approval and disapproval interactions which the elementary school teachers had with their pupils. A significant difference was found in the distribution of disapproval interactions of female teachers between male and female pupils. Female teachers had significantly more disapproval interactions with boys than with girls. Significant differences were also found to exist between boys and girls in the amount of approval interactions they receive from female teachers. Female teachers also had significantly more approval interactions with boys than with girls.

Differences that were significant were found between male and female teachers in their approval and disapproval interactions

with children. Male teachers had significantly more approval interactions with boys than did female teachers. Male teachers also had significantly more disapproval interactions with girls than did their female counterparts. Analysis of nonhypothesized data, however, found that male teachers, like female teachers, had significantly more disapproval interactions with boys than with girls.

Data analysis revealed that boys received significantly more total approval/disapproval interactions from their teachers than did girls. It was also found that the pupils themselves recognized that boys receive significantly more disapproval from their teachers than do girls. Analysis of nonhypothesized data found that pupils, however, think girls receive more approval from their teachers than do boys.

Further analysis of nonhypothesized data indicated that there was no significant difference between male and female teachers in their undifferentiated approval interactions with children. Data relating to undifferentiated disapproval interactions yielded differences that favored the male teacher group which were significant at the .01 level.

A significant difference was found in the total amount of approval/disapproval interactions of the male and female teacher groups. Female teachers had more approval interactions, more disapproval interactions, and more total approval/disapproval interactions with their pupils than did male teachers.

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CHAPTER V

SUMMARY, FINDINGS, CONCLUSIONS, AND RECOMMENDATIONS

Summary

The purpose of this study was to determine the relative amount of difference between male and female teachers in their approval and disapproval interactions with boys and girls in the classroom. The data pertinent to this investigation was collected in thirteen elementary schools located in five suburban communities in the north-central part of a Southwestern state.

The teacher subjects were forty-four fifth- and sixth-grade elementary school teachers divided equally into male and female groups and matched as nearly as possible on the following criteria: age, teaching experience, educational background, marital status, and number of dependent children. The pupil subjects totaled 1,313 (646 boys and 667 girls) and consisted of all pupils enrolled in subject teachers' classes during the period of data collection. All classes were self-contained groups, but had special teachers for music.

Collection of data appropriate to hypotheses one through five was made by two trained observers using the time sample method of systematic classroom observation. The instrument used in the collection of data for these hypotheses was the

Minnesota System of Interaction Analysis. Interaction analysis is an objective observational technique useful in classifying the verbal interaction between teachers and pupils which has received considerable attention during the past few years.

The instrument used in the collection of data for hypothesis number six was the "Guess Who?" technique employed in the early character-inquiry experiments and refined and modified by later researchers. The "Guess Who?" technique used in this study required the child to nominate fellow class members for a number of situations in which children are receiving approval or disapproval from their teacher for some behavior.

At least four observations were made in each of the forty-four classrooms. Each teacher was observed for at least ninety minutes during which verbal interaction data were collected. The "Guess Who?" data were collected in ten classrooms which were selected at random from a group of twenty-eight classrooms in which boys had received at least twice as many disapproval interactions as had girls.

Statistical treatment of the data was by tests of significance of the difference between percentages and by the general Chi-square formula. The .01 level of significance was used as the point at which the null hypothesis would be rejected.

Findings

Results of statistical analysis of the data yielded differences which were significant for each hypothesis. The findings of this study indicated the following:

1. Female teachers have significantly more disapproval interactions with boys than with girls.
2. Female teachers have significantly more approval interactions with boys than with girls.
3. Male teachers have significantly more approval interactions with boys than do female teachers.
4. Male teachers have significantly more disapproval interactions with girls than do female teachers.
5. Boys are involved in significantly more approval/disapproval interactions than girls.
6. Pupils recognize that boys are involved in significantly more disapproval interactions than girls in those classrooms where boys actually are involved in more disapproval interactions.
7. Male teachers have significantly more disapproval interactions with boys than with girls.
8. There was no significant difference between male and female teachers in the amount of undifferentiated approval interactions they had with children.
9. Male teachers have significantly more undifferentiated disapproval interactions with children than did female teachers.

10. Female teachers have significantly more approval interactions, more disapproval interactions, and more total approval/disapproval interactions with their pupils than do male teachers.

11. Most pupils think that girls receive more approval from their teacher than do boys.

Conclusions

In relation to the purposes of this study and based upon its findings, the following conclusions appear to be warranted:

1. Major determinants in the distribution of approval and disapproval in the elementary classroom are sex of the teacher and sex of the pupil.

2. Elementary children's perceptions of appropriate sex-role behavior are most consistently reinforced by the same-sex teacher.

3. Elementary teachers of both sexes are significantly more disapproving of the behavior of boys than of the behavior of girls.

4. Elementary boys are the recipients of significantly more approval than are girls from both male and female teachers.

5. It is socially acceptable for boys to display more aggressiveness than girls. The tendency toward more aggressive behavior is probably a major reason for boys' receiving more of the elementary teacher's active attention.

6. Male teachers are significantly more approving of boys and disapproving of girls than are female teachers.

7. Pupils correctly recognize that boys are involved in significantly more disapproval interactions than girls. However, most pupils think that girls receive more approval from their teacher than do boys.

8. When a female teacher disapproves of a behavior or an attitude, this disapproval is much more likely to be directed toward a specific pupil, usually a boy, than toward disapproval of a group of pupils or the entire class.

9. Female teachers interact with pupils in an approving and disapproving manner much more frequently than do male teachers.

Recommendations

The findings of this study are supported rather consistently by the findings of other related research reported in Chapter II (2, 3, 5). The departure which this study has made has been in including a larger sample of subjects, and also a sample that included and reported findings that were equally divided according to sex. Taken together, these findings seem to offer several recommendations which should be considered when dealing with children.

Educators know that learning proceeds according to individual differences, and it follows that teaching must take these

differences into account. Human beings are taught and reared differently according to their sex. Yet many of our schools seem to pretend that these teachings have no influence on the thinking, adjustment, and learning of pupils. The findings of this study seem to support Grambs and Waetjen (1) when they say that "it makes a significant difference whether the person we are teaching is a boy pupil or a girl pupil and that instructional provisions should be made accordingly."

No matter how much it is denied, teachers behave according to what they believe is sex-appropriate role behavior, and it is necessary to take this into account in staffing the elementary school. The following recommendations, although not conclusive, seem justified:

1. The elementary school should have a complement of men faculty members. Research indicates that boys have difficulty in their language development and perhaps having only women teachers is one cause. According to Tolbert (6), men are also needed in elementary schools to serve as models for sex-role identification and to lend their masculine influence to the curriculum and child.

2. The selection of curricular materials needs a stronger masculine influence. Reading interests of boys and girls differ, yet library books, textbooks and other curricular materials are usually selected by women.

3. From all indications, the male elementary teacher will remain in the minority in the field of elementary education for several years to come. It is important, then, to consider ways in which more learners may be exposed to the masculine influence of the male elementary teacher. The male teacher could be employed in such instructional roles as teacher of physical education, music, art, foreign language and other positions that require him to meet many children. Team teaching and departmentalized teaching are two methods of organization that permit more learners to come in contact with the male teacher.

4. Elementary teaching should be made more attractive to men by developing more and different pathways and incentives for men to become elementary teachers.

5. For several years to come, the vast majority of teachers in elementary school are going to be women. What are the assets they possess which are of significant value? For one thing, studies seem to indicate that the nurturing warmth of a woman in the child's early years is a prerequisite for later achievement and development. That which is female in women is to be valued, made functional and educated.

6. Women who teach in the elementary school should be taught to recognize, understand, and accept the masculine traits which boys exhibit as very normal differences between boys and girls.

7. A redefinition of the traditional role of the teacher that would include the use of nonprofessional personnel might be helpful. Young men hired as teacher aides, for example, could be assigned playground duty and lunchroom duty. This practice would be particularly helpful in schools serving urban and slum areas where many boys do not have adult male sex-role models. Perhaps sixth-grade boys could be used in kindergarten, first- and second-grades as tutors and companions for both boys and girls.

It should be clearly stated that such changes in structure and staff as have been suggested are important for girls as well as for boys. Girls need an environment which permits them to view men and boys as colleagues, not competitors. The writer agrees with Sexton when she says:

I am inclined to think, however, that the education that would best suit boys would also suit girls, at least better than what they now get, and I think we have to worry less about girls becoming more masculine than about boys becoming more feminine (4, p. 57).

The evidence presented in this study suggested other areas for investigation. The following recommendations are made for further research in this area:

1. This study should be repeated in an urban area serving low socio-economic and minority group children.

2. This study should be repeated in schools that departmentalize by subject in order to determine the relationships

among the variables of sex of teacher, sex of pupil, instructional grouping, and approval and disapproval interactions.

3. There is a need for research on sex differences in the school as they relate to children and teachers in the primary grades. A search of the literature revealed no research done in this area, probably because there are virtually no men teaching in the primary grades. The societal stigmas, as well as the very real economic factors, which have relegated primary education to the almost exclusive domain of women need to be examined closely and critically.

4. Differences in levels of achievement between boys and girls who have male and female teachers should be tested to determine if sex of the teacher is a factor in the achievement of boys as compared with girls when intelligence is held constant.

5. The "Guess Who?" technique used in this study should be administered to a sample pupil population prior to gathering verbal interaction data in order to determine what correlates exist between observed approval and disapproval interactions and the distribution of approval and disapproval interactions as the pupils see them.

6. A technique should be developed that would facilitate the laborious construction and tabulation of the interaction analysis matrices.

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APPENDIX A

GUESS WHO?

In this booklet are some word pictures of members of your class. Read each statement and write down the names of the person whom you think the description fits. Remember ---

1. Several people may fit one picture. You may write down after each description as many names as you think belong there.

2. The same person may be mentioned for more than one word-picture.

3. If you cannot think of anyone to match a particular word-picture, go on to the next one.

4. Write the given and last names of the persons chosen, not the nicknames or initials.

5. Put your own name down if you think the description fits you.

GUESS WHO?

1. Here is someone whose work is often put up on the bulletin board.

1. _____ 3. _____

2. _____ 4. _____

2. Here is someone whose work is often pointed out as being very neat.

1. _____ 3. _____

2. _____ 4. _____

3. Here is someone whom the teacher often scolds for whispering.

1. _____ 3. _____

2. _____ 4. _____

4. Here is someone who is often praised for good writing on all papers handed in.

1. _____ 3. _____

2. _____ 4. _____

5. Here is someone whom the teacher often scolds for disturbing the class in some way (shooting paper wads, chewing gum, etc.)

1. _____ 3. _____

2. _____ 4. _____

6. Here is someone who is often scolded by the teacher because he or she pays little attention to what is going on in class.

1. _____ 3. _____

2. _____ 4. _____

7. Here is someone whom the teacher often chooses to help other children with their work.

1. _____ 3. _____
2. _____ 4. _____

8. Here is someone who has to stay in the room during recess or after school to finish their work.

1. _____ 3. _____
2. _____ 4. _____

9. Here is someone who is praised for always having their assignments done on time.

1. _____ 3. _____
2. _____ 4. _____

10. Here is someone who has been praised by the teacher because his or her behavior has improved.

1. _____ 3. _____
2. _____ 4. _____

11. Here is someone who is often scolded by the teacher for handing in untidy papers.

1. _____ 3. _____
2. _____ 4. _____

12. Here is someone whom the teacher praised for trying hard, even if the work isn't easy for him or her.

1. _____ 3. _____
2. _____ 4. _____

13. Here is someone who is often suspected by the teacher when something happens while she is out of the room.

1. _____ 3. _____
2. _____ 4. _____

14. Here is someone whom the teacher often scolds for talking without raising his or her hand.

1. _____ 3. _____

2. _____ 4. _____

15. Here is someone who is praised for doing extra work, or for bringing things to school for the class to see.

1. _____ 3. _____

2. _____ 4. _____

16. Here is someone whom the teacher often points out as wasting too much time.

1. _____ 3. _____

2. _____ 4. _____

17. Here is someone on whom the teacher calls when she wants the right answer.

1. _____ 3. _____

2. _____ 4. _____

18. Here is someone who is praised for helping keep room clean and orderly.

1. _____ 3. _____

2. _____ 4. _____

19. Here is someone who is often pointed out as not doing their best work.

1. _____ 3. _____

2. _____ 4. _____

20. Here is someone who is chosen by the teacher to take leading parts in plays and assembly programs.

1. _____ 3. _____

2. _____ 4. _____

21. Here is someone whom the teacher often scolds for starting fights or picking on someone else.

1. _____ 3. _____
2. _____ 4. _____

22. Here is someone to whom the teacher often speaks because they do not have their things ready when it is time to begin to work.

1. _____ 3. _____
2. _____ 4. _____

23. Here is someone whom the teacher often asks to do errands for her (or him) or to be a monitor while she (or he) is out of the room.

1. _____ 3. _____
2. _____ 4. _____

24. Here is someone who sometimes has to go to the principal's office or has to be punished by the teacher.

1. _____ 3. _____
2. _____ 4. _____

APPENDIX B

SAMPLE FORM FOR TABULATING VERBAL BEHAVIOR
DENOTING SEX OF PUPIL

Teacher _____ Date _____ Subject _____
Time _____ to _____ Total _____ Observer _____

B	N	G	B	N	G	B	N	G	B	N	G	B	N	G

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