

August 6, 1974

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I am submitting herewith a dissertation written by Rose Patton entitled "An Investigation of the Effects of Involvement as Tutors in a Cross-Age Helping Program for Socially Isolated Fourth-Grade Children." I recommend that it be accepted in partial fulfillment of the requirements for the degree of Doctor of Philosophy, with a major in Psychology.

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AN INVESTIGATION OF THE EFFECTS OF INVOLVEMENT AS TUTORS
IN A CROSS-AGE HELPING PROGRAM FOR SOCIALLY
ISOLATED FOURTH-GRADE CHILDREN

A Dissertation

Presented for the
Doctor of Philosophy

Degree

The University of Tennessee

Rose Patton

March 1975

ACKNOWLEDGMENTS

For his continued guidance and support over the past four years and especially in the planning and preparation of this dissertation, I would like to express my sincere appreciation to Dr. J. Albert Wiberley, Professor and Director of School Psychology.

I am also indebted to Drs. Robert G. Wahler and Michael J. O'Connell of the Psychology Department and Dr. William A. Poppen of the Educational Psychology and Guidance Department for the additional assistance they provided.

I would like to thank Dr. L. Edward Pratt, Dean/Director of Peabody Demonstration School, for allowing me to conduct this study at that institution.

Special thanks go to the teachers involved whose patience was unending.

Most of all, I would like to thank the participating children who were constant delights.

ABSTRACT

The purpose of this study was to investigate the effects of involvement as tutors in a cross-age helping program on eight socially-isolated fourth-grade children who attended a private school in Nashville, Tennessee. Tutors were selected on the basis of their isolation revealed by the administration of a sociometric criterion to the entire fourth-grade class. It was hypothesized that involvement in the tutorial experience would lead to improved attitude toward school, improved social status in the classroom, and more successful academic achievement. Attitude toward school was inferred from tutors' projective stories and attendance records. Social status was based on results of sociometric elections and teacher ratings. Academic achievement was assessed through standardized group achievement tests.

Children were involved in the cross-age helping program for ten weeks, tutoring second-graders four days a week and attending workshops with the experimenter once a week. Results were interpreted by means of a pre-/post-test design with no control group employed.

Of the eight tutors, two males attained non-isolate status on the second sociometric criterion that followed their participation in the cross-age helping program. Two sex differences were noted. The hypotheses were supported only partially. Included are suggestions for further research.

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CHAPTER I

INTRODUCTION

I. PREVIOUS RESEARCH

Children have been teaching other children probably since time immemorial. The technique was used widely on an informal basis in one-room schoolhouses during the rural era in the United States. It is undergoing a resurgence in recent years in the current more systematic, organized, and deliberately planned tutorial programs.

In the early tutoring experiences, the benefits accrued by the recipient of the tutoring were of prime concern. Tutoring was initiated in order to help the tutee improve academically. Though academic gains usually did follow, they were often not of great magnitude. The person who seemed to reap the greatest benefits in the tutorial experience was the tutor (Gartner, Kohler, and Riessman, 1971). Not only did tutors improve in their school work, but they also were seen to achieve new status and prestige.

In his Didactica Magna of 1632, Comenius stated:

The saying, "He who teaches others, teaches himself," is very true, not only because constant repetition impresses a fact indelibly on the mind, but because the process of teaching in itself gives a deeper insight into the subject taught.
(p. 47)

The advantages of children teaching children were noted by Lancaster (1806) and Bell (1832) who adopted this procedure out of necessity due to a lack of adult teachers. The method was economical and

produced positive effects. Fowle (1866) stressed the beneficial outcome of children sharing their knowledge with each other since the explanations of children may sometimes be better suited to the understanding of children than those of adults would be.

Interest in children teaching children was renewed in the early 1960s. The Lippitts (P. Lippitt, Eiseman, and R. Lippitt, 1969; P. Lippitt and Lohman, 1965; and Fox, R. Lippitt, and Lohman, n.d.), working in Detroit, Michigan, set up cross-age helping programs in which sixth-graders experiencing reading difficulties acted as tutors for fourth-grade youngsters with similar academic problems. Though the Lippitts did not emphasize that the tutor was the prime beneficiary in the learning experience, their work did demonstrate that tutors as well as tutees made significant academic gains. The primary thrust of the program was academic improvement. During the course of the tutoring, it was observed that the younger children exhibited improved performance, interest, attentiveness, and motivation, while the older children showed greater interest in school, attitude change, and better ability to work cooperatively with other children. The observations were supported only by anecdotal evidence.

The Mobilization for Youth program (Cloward, 1967) in New York City involved high school students tutoring disadvantaged elementary school children who were academically unsuccessful. It was noted that, while the tutees made academic gains, the tutors showed striking behavior changes. They became excited about their teacher roles and seemed to learn how to learn. Again, these conclusions were based on rather impressionistic observations.

The Youth Tutoring Youth program of the National Commission on Resources for Youth (Kopp, 1972) operated an after-school tutoring program for disadvantaged youngsters in collaboration with the Neighborhood Youth Corps. The tutors were high school age underachievers paid for their teaching services. This program marked a definite focus on tutors as one of its goals was to "give tutors a sense of potency . . . to foster a sense of personal effectiveness through work experience . . . to give meaningful job responsibilities through the task of tutoring" (National Commission on Resources for Youth, 1969, p. 40). The program also hoped to improve the tutee's reading ability and/or his attitude toward learning in general by placing him in a dyadic relationship with an older child. The results indicated that both tutors and tutees made progress in gaining a sense of work responsibility, an appreciation of learning, improved literary skills, and motivation to work and stay in school.

Newmark and Melaragno (1968-1969, 1969-1970) extended the idea of cross-age helping relationships to the development of a tutorial community in which everyone is both a learner and a teacher. Cross-age and intra-class tutoring took place. Although no formal evaluative measures were used, the following anecdotal data were reported:

Most teachers who sent tutors to the Kindergarten believed that their students had profited from the experience. They reported that some tutors had improved their attitudes toward school, in their behavior, and in their self-discipline. They also indicated that some tutors were able to carry over their experience to their own classrooms, and helped their peers with school work. (p. 35).

The Central Midwestern Regional Educational Laboratory (Project Enable, n.d.) in Nashville, Tennessee used a tutoring program as a

way to get academically unsuccessful youngsters to work at lower level materials. The teachers observed during the course of the tutoring that the older youngsters developed a better self concept and learning style. Unfortunately, this was not thoroughly investigated through systematic measurement procedures.

A learning rehabilitation clinic at Maimonides Medical Center (Pollack, Sher, and Teitel, 1969) used a cross-age helping program to augment limited adult personnel thus following the seemingly most common rationale for the practice. Tutors were selected on the basis of teacher recommendations as to how well they could relate to younger children, not on academic achievement. Favorable results were reported.

Some tutoring programs have continued to emphasize academic gains (Werth, 1968; Neidermeyer and Ellis, 1969; Bradshaw, 1971; Robertson and Sharp, 1971; Harrison, 1972; Homework Helper Program, 1972; Taylor and Fleming, 1973; and Allen and Feldman, 1972), while others have begun to examine formally the additional dynamics of tutorial relationships. Thelen (1967) emphasized the interpersonal relationship between tutor and tutee. By giving youngsters a chance to practice the adult role of teacher, enhancement in ego development and self-esteem resulted.

The Appalachian Teenage Teacher Aide Project (1969) placed deprived teenagers in a tutorial situation in an attempt to motivate them to attend college after high school. Thompson (1972) and Bremmer (1972) have demonstrated a lower absence rate of tutors during tutorial programs.

Robertson (1971) investigated the effects of cross-age tutoring (fifth-graders teaching first-graders) on tutor self concept. Tutorial sessions were held for thirty minutes a day, three days each week over a two-month period. The results indicated that the tutors developed significantly different and more positive self concepts. Dillner (1971, 1972) reported similar findings. Tutors showed significant improvement in "autonomy" on a self concept scale.

Mohan (1972) investigated the hypothesis that peer tutoring would have a significant, favorable effect on the school achievement, motivation, attitude, and self concept of unmotivated children, both tutors and tutees. Tutors and tutees in the experimental group showed significant growth on measures of academic achievement, motivation as assessed by the teacher and the students, and for the tutors, in attitude toward school. The only objectives which were not met were a favorable change in self concept of both tutors and tutees and a positive attitude change in tutees. Mohan suggests that this may have been due to the short duration (three months) of the program.

Numerous researchers of cross-age helping programs suggest that tutors gain personally and socially as a result of participation in the teaching experience. The supporting data are largely observational and anecdotal with firm evidence appearing only recently and in a few cases.

Early tutorial programs focused their attention on academic gains (Cloward, 1967; Kopp, 1972; and Project Enable, n.d.). Other programs have attempted to determine secondary gains associated with

program involvement with the major thrust still being pupil academic improvement (P. Lippitt et al., 1969; P. Lippitt, 1969; P. Lippitt and Lohman, 1965; Fox et al., n.d.; National Commission on Resources for Youth, 1969; and Thelen, 1967). The most recent programs have begun to focus on the secondary gains such as improved motivation, attitude, and self concept for both tutors and tutees (Robertson, 1971; Dillner, 1971, 1972; and Mohan, 1972).

In accord with the various foci of studies, the selection criteria for tutors and tutees have reflected the goals of the researchers. Tutoring programs have selected tutors on the basis of academic underachievement (Cloward, 1967; Kopp, 1972; and Project Enable, n.d.), teacher recommendations regarding social ability as teachers (Pollack et al., 1969) or because the students were viewed as unmotivated (Appalachian Teenage Teacher Aide Project, 1969; and Mohan, 1972).

Congruent with this, all of the secondary gains noted in the literature on the cross-age helping programs could serve as bases for selection criteria. Children with disturbingly poor self concepts could be employed as tutors for the express purpose of building their self esteem. Chronically-absent youngsters could be encouraged to participate in a tutorial program with the primary goal of their involvement being better school attendance. Youngsters who have notable difficulties establishing adequate peer relationships could be given teaching positions with younger children in an attempt to bolster their interpersonal skills.

By varying selection criteria and examining benefits derived by children based on these criteria, it would seem possible to investigate with more precision the merits of the cross-age helping program as a therapeutic process. The present investigation seeks to do just this-- to select children on the basis of their social isolation in a classroom, involve them in a tutorial program with younger children, and assess its effects on several variables connected with themselves and their classroom. Thus, the tutorial program may prove to be a valuable aid for improving some school-related problems.

II. FOCUS OF THE STUDY

The present study investigated the effects that involvement as tutors in a cross-age helping program would have on socially-isolated children. In contrast to those studies previously reviewed, it employed a set of multiple criterion measures. Social isolation as determined by a sociometric study was the major selection criterion for those children in prime focus, the tutors. The use of sociometric criterion as a screening device is supported by Barclay (1966) as its use as a "criterion of behavior change particularly in response to an experimental procedure introduced into the classroom setting to improve the social behavior of individuals," (p. 1073). The effects of the cross-age helping program were examined in terms of tutor status in the classroom, their attitude toward school, their teachers' perceptions of them, and their own academic gains. The investigation sought to determine the possible merits of the tutorial experience employed as a remediation procedure for socially-isolated children.

If cross-age helping programs do tend to foster better self concepts (Mohan, 1972; Dillner, 1971, 1972; Project Enable, n.d., and Robertson, 1971), better attitudes toward school as evidenced by lower absence rates (Thompson, 1972; and Bremmer, 1972), and better attitudes toward school work (Newmark and Melaragno, 1968-1969, 1969-1970; Project Enable, n.d.; Cloward, 1967; Kopp, 1972; P. Lippitt et al., 1969; P. Lippitt, 1969; P. Lippitt and Lohman, 1965; and Fox et al., n.d.), it would seem advantageous to include social isolates as tutors in cross-age helping programs, thereby exposing them to such possible personal gains. The thrust of the present investigations was to provide children with an opportunity to make such gains or experience negative effects.

The study centered around a pre-/post-test design with measures obtained immediately prior to and following the implementation of the cross-age helping program. The investigation was more clinical in nature than experimentally rigorous in the sense that there was intensive observation and participation on the part of the experimenter herself. This type of investigation was considered more appropriate in view of the experimenter's active role and the small sample examined.

The investigation was, however, limited by the unavailability of a control group. The study was conducted at a school in which there was only one class of youngsters per grade level. This eliminated the possibility of securing another group of social isolates of the same grade level from a different classroom in the same school. The students were from financially-secure families as defined by their

ability to afford rather costly tuition rates at an institution offering no financial assistance. The population of students at this school was considered so unique as to preclude ready location of a matched sample of youngsters from the same geographic area to serve as controls.

The results were analyzed both nomothetically and idiographically. The nomothetic analysis was designed to examine various differences in the group of tutors. Differences among the tutors were investigated through the idiographic analysis.

The study was unique in that children were given teaching positions because they were social isolates in their classroom. They were not experiencing any particular academic problems. The social isolation was considered worthy of remediation attempts. The cross-age helping program was designed to serve as a vehicle for remediation. Measurements were employed to investigate the efficacy of this approach.

III. HYPOTHESES

Social Status of Tutors

The children who acted as tutors were all classified as social isolates according to an ad hoc sociometric criterion. It was intended to test the consequences of involvement in the cross-age tutorial program on the social relationships of these fourth-graders with their peers and with their teachers.

Predictions. I--As a result of participating in the cross-age helping experience, tutors will gain greater popularity with their classmates as determined by a sociometric criterion.

II--The fourth-grade teachers will view the tutors as having gained in social adjustment following their participation in the cross-age helping experience. This will be investigated through the use of the Bristol Social Adjustment Guide: The Child in School.

Tutor Attitude Toward School

It was hypothesized that tutors would develop a more positive attitude toward school as a result of participating in the cross-age helping experience. Attitude toward school was measured and inferred from an analysis of tutor attendance records and ratings of stories written by tutors in response to pictorial representations of school life.

Predictions. III--Tutors will be absent on fewer occasions during the semester in which they participate in the cross-age helping experience.

IV--Stories written by tutors in response to pictorial representations of school life will be viewed by independent raters to express closer correspondence to the kinds of responses the fourth grade teachers themselves designated a priori as "preferred" following participation in the cross-age helping experience.

Academic Achievement of Tutors and Tutees

The cross-age helping program as an addition to the regular classroom experience would ideally result in greater academic gains for its participants, both tutors and tutees.

Predictions. V--Academic achievement of tutors will be greater during the time frame of the study than during a comparable period immediately preceding the introduction of the tutorial program.

VI--Academic achievement of tutees will be greater during the scholastic period in which they are tutored than during a comparable period without tutoring.

CHAPTER II

METHOD

I. RESEARCH SITE

The children who participated in the present investigation attended Peabody Demonstration School located in Nashville, Tennessee. It is a co-educational, racially integrated, nonsectarian school associated with George Peabody College for Teachers. The school serves the college through its function as a practicum and internship site, a student-teacher placement school, and a research setting.

Approximately 830 students of nursery school through high school age are served by this institution. Tuition is costly and no scholarships are awarded to students. The student body is consequently from a rather high socioeconomic level. Approximately 99 per cent of the graduates enter college. This indicates the high level of performance characteristic of the school's students.

The faculty is upwardly mobile in terms of career development with a considerable number of teachers working toward advanced degrees.

Nursery school through grade four is operated in self-contained classrooms staffed by two teachers working in a team situation. This yields a pupil-teacher ratio of not more than eighteen to one, with a maximum class size of thirty-six pupils. The middle school consists of four major curriculum areas (social studies, science, mathematics, and language arts) supplemented by elected enrichment courses. The high school curriculum consists of the traditional core of courses which aim at college preparation.

II. SUBJECTS

The subjects were eight fourth-grade youngsters (tutors) and eight second-grade youngsters (tutees) all of whom were selected respectively from two self-contained classrooms. Each classroom was supervised by two full-time, equally qualified, and certified, teachers. A sociometric criterion, "Name three students with whom you would like to work at a learning center," was administered to the entire fourth-grade class. The terminology used in the sociometric criterion was familiar and meaningful to the children since curriculum units were characteristically presented to them through the use of learning centers.

The children receiving the least number of choices on the sociometric criterion were considered for the tutorial experience (see Appendices A and B). Six youngsters, three males and three females, received no choices. They were all included in the cross-age helping project. Of the seven children who received only one choice, three had no mutual choices. The fourth-grade teachers chose two of these seven youngsters, one male and one female, to be tutors.

At the time the cross-age helping program was initiated, tutors ranged in age from 9 years, 1 month to 10 years, 1 month. Six tutors were white and two were black. Three had divorced parents. One boy was adopted while another lived with his natural mother and adoptive father. Most of the parents held positions of high responsibility. They were very well-educated with the least-educated parent being one

who held a high school diploma. Data concerning tutors are contained in Appendix E.

The tutees were chosen by the second-grade teachers. They were eight children, five males and three females, whom the teachers judged might benefit from individual tutoring in reading or arithmetic skills. The tutees ranged in age from 7 years, 6 months to 9 years, 6 months. Three were black and five were white. All of the parents were living together. One child was adopted. Parents' occupations were again impressive with the majority holding highly skilled and responsible professional positions.

III. PROCEDURES

Tutor Training

Following student selection, the tutors attended a workshop with the experimenter. In this workshop, it was explained to the fourth-graders that they had been selected to tutor second-graders because their teachers and the experimenter felt they would be good teachers. The eight prospective tutors expressed interest in the program and desire to participate.

The tutors were prepared for an orientation meeting that would follow. The children were instructed to mingle with and meet all eight second-graders so that they would be ready to make decisions about tutoring pairs at a later meeting.

Tutors were made aware of the rules for partner selection. Everyone was required to select a partner. If some of the tutor-

tutee pairs proved to be clearly incompatible, partners would be permitted to exchange places once.

A general orientation meeting for all student participants was held on the following day. The purpose of the meeting was to provide the students with an opportunity to meet each other and choose a partner for the tutoring sessions. Partner selection was accomplished very quickly and, as it turned out, no pairs were changed and none discontinued participation in the tutorial experience.

At the second workshop, tutors officially stated with whom they preferred to work and the tutorial pairs were established. General plans for meeting were discussed. The tutors talked about their intended teaching strategies. They were given copies of the "All About Me" booklet (National Commission on Resources for Youth, 1970) to become familiar with so that they could be used in the beginning tutoring sessions.

During the course of the cross-age helping program, six additional workshops were conducted. They were held weekly, each lasting twenty minutes. The experimenter personally supervised all of the workshops. The purpose of these training sessions was to provide tutors opportunities to discuss the teaching process among themselves, to share experiences and to offer suggestions to each other for teaching practices.

At the third workshop, the fourth-graders were given brief descriptions of the kinds of academic problems each tutee was experiencing. Teaching strategies were suggested by the experimenter. The tutors discussed their relationships with the younger children thus

far. The children were encouraged to help each other by sharing experiences and by offering suggestions. There was some discussion about tutor selection since one child suspected that tutors were chosen because they needed to learn more about the subject areas to be taught. Some of the turmoil had been aroused since the tutors noticed that other "smarter kids" were not selected to be in the cross-age helping program. The experimenter emphasized that children were selected because it was felt they would be good teachers. The experimenter honestly told them that she was not aware of the caliber of work they did in their regular classroom and was not interested in helping them with their schoolwork. The discussion ended with the tutors appearing to be satisfied with this explanation of their selection.

The fourth workshop centered around problems the experimenter was having in regard to the tutors' deportment. Tutors were generally unruly and uncooperative when relating directly to the experimenter. The experimenter told the children that she was pleased with their teaching performance, but very displeased with their workshop behavior. Discussion revealed that the crux of the issue seemed to be that the experimenter was viewed by tutors as a substitute teacher with insufficient power to maintain substantial control over them. This was evidenced by their statement, "You can't send us to the principal." The importance of the workshops was discussed with the tutors. It was mutually decided that severely inappropriate workshop behavior would result in tutors being replaced by other fourth-graders. This was an idle threat insofar as the experimenter was concerned, but

seemed to be taken seriously by the tutors. Failure to attend a workshop would cause a tutor to miss one day of teaching. The respective tutee would work with another tutor. This actually did occur on two occasions.

Some functional difficulties, such as abundant demand for chalkboard space, were also discussed at this workshop. Trial solutions were agreed upon.

Tutors behaved more appropriately at the fifth workshop. Each one talked about his student in turn. Some suggestions were made but the session was generally uneventful otherwise.

Role-playing was introduced in the sixth workshop. One tutor had complained about her student acting tired when she no longer wanted to work. In the exercise, this tutor assumed the role of her tutee while another child played the part of the tutor. Afterward, tutors discussed what had transpired and a general discussion of the purpose of tutoring ensued.

At the seventh workshop, several tutors had specific problems they wished to air so the session was geared toward problem-solving. Some tutors had begun working together and discussed their progress.

For the last workshop, tutors were requested to write statements about what they were doing in the tutoring sessions, what they hoped to accomplish in the coming week, and their impression of how well their students were doing. Their statements are included in Appendix F.

Pre-Test Achievement Testing

The experimenter administered achievement tests to the tutees prior to the implementation of the cross-age helping program. They

were told then that some fourth-graders would be spending some time with them each day to help them with reading and arithmetic.

The tutors completed achievement testing, also administered by the experimenter, immediately following the second tutor workshop.

Tutoring Sessions

Tutoring took place four days a week for approximately twenty minutes a day over a ten-week period in the second semester of the school year. There were twenty-two tutoring sessions in all. Tutoring sessions were held in a classroom distinct from both second- and fourth-grade rooms. The room was of ample size to allow the pairs to separate themselves from each other and establish a teaching niche.

The experimenter was always present during the sessions. No structured tutoring methods or media were employed. Rather, tutors were encouraged to use their imagination and creative abilities in devising instructional activities for the younger children.

The experimenter supplied tutors with some materials for use in the teaching sessions. All were given "All About Me" booklets (National Commission on Resources for Youth, 1970). These were used during the initial phase of the program. Later, the experimenter made math sheets and reading books obtained from the second-grade teachers available to the children. Two tutors purchased arithmetic workbooks to use with their students and discontinued using math sheets. The reading tutors often brought library and personal copies of books for use with their students.

IV. CRITERION MEASURES

The variables which required measurement were social status of tutors, tutor attitude toward school, and academic achievement of tutors and tutees.

Social Status of Tutors

Peer ratings. The sociometric criterion, "Name three students with whom you would like to work at a learning center," used to select tutors was repeated at the termination of the cross-age helping program. Tutors were viewed as having better social status in their classroom if they were no longer isolates according to the second sociometric study. Non-isolation would be indicated by their receiving more than one non-mutual choice or at least one mutual choice on the administration of the sociometric criterion.

Teacher ratings. The fourth-grade teachers were asked to complete the Bristol Social Adjustment Guide: The Child in School (BSAG) for each tutor before the initiation of the cross-age helping program and again upon its completion. The teachers did not have access to their first ratings when they rated the youngsters for the second time.

Tutor Attitude Toward School

Absenteeism. Tutor attendance records for the first (no tutoring) and second (tutoring) semesters were compared to determine whether

the tutors were absent on fewer occasions during the semester in which they participated in the cross-age helping program.

Tutor stories. Cards #1, 3, 4, and 7 of the School Apperception Method (SAM) were administered to the entire fourth-grade class in a pre-/post-test situation. These four cards were selected by the fourth-grade teachers to be incorporated into a creative writing experience. The youngsters were requested to look at each picture and write the best story they could describing the events connected with the picture. Tutors were not aware that this activity was in any way connected with the cross-age helping program.

The tutors' stories were coded for anonymity and read by the members of a high school psychology class. The class was comprised of varying age students who attended the same school as did the tutors. These raters were selected because they shared the uniqueness of this particular school situation. Any jargon peculiar to this school that might be used by the tutors in their stories would be familiar to the raters. The high school students were nearer the age level of the tutors than college students, teachers, or any other group of adults would have been. These factors possibly enabled them to read the tutors' stories with more valid and accurate understanding than raters from outside the school would have had. In this sense, they had what the experimenter judged to be the requisite expertise.

The tutors' stories were rated in two sessions, with one session devoted to the pre-test stories and the other devoted to post-test stories. Approximately one month separated the two rating sessions.

The raters were not aware that both sets of stories came from the same individuals.

The high school students read each tutor's set of four stories and completed a rating scale (see Appendix G) per tutor. The rating scale was comprised of 21 items relating to the tutors' perceptions of teachers, schoolwork, and schoolmates. Each item consisted of a behavioral attribute and its opposite measured over a five-point scale.

Raters were instructed to complete the scale according to their impression of how the story authors (tutors) viewed their teachers, schoolmates, and schoolwork. The raters were not formally trained. No feedback regarding ratings was given to the raters, nor were the ratings critiqued. The experimenter had limited access to the high school students thereby precluding elaborate training procedures. It seemed more desirable to have raters who were close to the life space of the children who participated in the cross-age helping program than to have highly professionalized raters of the kind more commonly employed in content analyses.

The pre-test stories were rated by six high school students while the post-test stories were rated by ten students. In some instances, the same individuals participated in both rating sessions.

For each item of the rating scale, the two fourth-grade teachers collaborated in selecting a preferred response. The preferred response was one which reflected the way they would like to see teachers, schoolwork, and schoolmates viewed by any school-age child. Each

rating was then scored according to its distance from the preferred response following the procedure employed by Brown (1973). Thus on a scale from 1 to 5, if 3 were the preferred response, responses 2 and 4 would receive scores of one point, while responses 1 and 5 would receive scores of two points. The preferred response, 3, would receive zero points. If the preferred response were number 5, then response 4 would be scored one point; response 3, two points; response 2, three points; and response 1, four points.

For example, for the first item of the rating scale (Teacher: permissive vs. strict), one tutor received ratings of 2, 3, 4, 4, 2, and 4 on the pre-test stories. These ratings were converted to distance scores of 1, 0, 1, 1, 1, and 1 respectively. This process was employed for each scale item for each tutor on pre- and post-test ratings.

A composite score for each tutor was developed by computing distance scores for each item of the rating scale and obtaining the mean across raters. A grand mean representing all of the items on the scales was then computed. This number represented the individual's composite score. Pre- and post-test grand means for each tutor were compared to determine whether or not their attitudes had changed during the course of the cross-age helping program.

Brown (1973) used this type of analysis system in a survey of students' views of teachers, programs, and other students participating in a Supplementary Instructional Education Program. The system marked an attempt to evaluate program success. The method was adapted to the content analysis of the present investigation.

Academic Achievement of Tutors and Tutees

Portions of the Metropolitan Achievement Tests (MAT) were administered to tutors and tutees in October, February (immediately prior to the initiation of the tutorial program), and April (immediately following the termination of the tutorial program). The children who would be working on reading skills completed the "Word Knowledge" and "Reading" subtests of the MAT. The children who would be working on arithmetic skills completed the "Total Mathematics" section of the MAT. The youngsters were administered levels of the MAT appropriate for their grade placement. In cases where the same level was indicated for more than one administration, an alternate form of that level was used. The changes in scores for tutors and tutees on the MAT between administrations 1 (October) and 2 (February) were compared with the changes between administrations 2 and 3 (April). The first measurement interval was 60 days; the second was 45 days. Measurements for the second interval were prorated so that they could be equated with the first. The design was intended to test the theory that involvement in the tutorial experience would result in the second measured changes being larger than the first for tutors and tutees.

RESULTS

The results of the present investigation were analyzed both nomothetically and idiographically. The nomothetic analysis was designed to examine changes for the tutors as a group. Differential changes among the tutors were investigated through the idiographic analysis.

I. NOMOTHETIC ANALYSIS

Social Status of Tutors

Peer ratings. The first hypothesis stated that tutors would gain greater popularity with their classmates as a result of participating in the cross-age helping experience. To test this hypothesis, the sociometric data collected at the termination of the tutorial program were compared with those collected at the introduction of the tutorial program. Using as a pre-test criterion either having no choices or not more than one non-mutual choice, the second sociogram revealed that of the eight social-isolate-tutors, two (Tutors A and D) were no longer isolates. The tutors who made sociometric gains were males.

On the first sociogram, Tutor A received no choices while Tutor D received one non-mutual choice. By receiving 2 and 4 non-mutual choices respectively, these two boys met the a priori requirements for classification as non-isolates on the second sociometric

criterion. Tutor C received no choices on the first sociogram and increased to one choice on the second. Though he did have higher social status on the second sociogram, he did not meet the a priori requirements for classification as a non-isolate.

Tutors B, E, F and H received no choices on either the pre- or post-tutoring sociograms. Tutor G received one non-mutual choice on the first sociogram and no choices on the second.

The degree of change in sociometric status for the entire classroom from which the tutors were selected is presented in Table 1. Of the 37 members of the fourth-grade class, 15 maintained the same status in their classroom for the second sociometric criterion. The largest gain made by any class member was a jump of two concentric circles on the sociometric target (Appendices A and C). Two individuals made such gains and both of these individuals were tutors. In contrast, of the eleven children who received fewer choices on the second sociogram, thus indicating lowered status in their classroom, only one was a tutor.

Teacher ratings. The second hypothesis stated that the fourth-grade teachers would view the tutors as having gained in social adjustment following their participation in the cross-age helping program. This hypothesis was tested by the pre- and post-tutoring mean ratings awarded tutors by the fourth-grade teachers on the Underreaction and Overreaction scales of the BSAG.

All tutors were rated by their teachers as having made positive changes on the Underreaction scale. A correlated samples t-test

SOCIOMETRIC MOVEMENTS: NUMBER OF CONCENTRIC CIRCLES GAINED
OR LOST FROM FIRST TO SECOND SOCIOGRAM

	Total Children	N	<u>Tutors</u>		N	<u>Non-Tutors</u>	
			Per cent of Total	Per cent of Tutors		Per cent of Total	Per cent of Non-Tutors
Retained same position	15	4	10.8	50	11	29.7	37.9
Gained one circle	9	1	2.7	12.5	8	21.6	27.5
Gained two circles	2	2	5.4	25	0	0	0
Lost one circle	9	1	2.7	12.5	8	21.6	27.5
Lost two circles	1	0	0	0	1	2.7	3.7
Lost three circles	<u>1</u>	<u>0</u>	0	0	<u>1</u>	2.7	3.7
	37	8			29		

(McNemar, 1969, pp. 113-114) was used to test the significance of the difference between the mean pre- and post-tutoring ratings. The difference was significant at the .05 level ($t = 2.59$; $df = 7$). Thus, there was a significant change in the means for the pre- and post-tutoring ratings signifying a shift from relative passivity to a more outgoing, interactive style.

The Pearson Product-Moment Correlation Coefficient for the two sets of Underreaction ratings was .809 ($p = .05$). This particular correlation coefficient takes into account not only the individual's position in the group, but also the amount of his deviation above or below the group mean. The significant correlation in this case indicated a tendency for rankings in the group to stay the same on both sets of ratings and also a tendency for all individuals to move in the direction of the mean change. Thus, the change revealed as significant by the t-test was descriptive of everyone in the group rather than just a small part of the group.

The difference between the mean pre- and post-tutoring teacher ratings on the Overreaction scale of the BSAG was not significant ($t = 1.04$; $df = 7$; $p = .33$). The correlation between the two sets of ratings was also not significant ($r = .39$; $p = .34$), indicating no change in hostile, aggressive behaviors.

Since the fourth-grade teachers were aware of the purposes of the investigation, a halo effect cannot be discounted when interpreting the results of their Underreaction ratings. The teachers' desires to see the tutors improve socially may have biased their

ratings, so that they indiscriminately rated them as having improved. In like manner, the teachers' desires to help the experimenter obtain positive results may have influenced their post-tutoring ratings.

The significant difference in the pre- and post-test Under-reaction ratings indicates that the teachers judged the tutors to be more outgoing and socially confident following their involvement in the cross-age helping program. The unanimity of results coupled with the statistical significance is seen by the experimenter as indicative of true teacher attitude change rather than mere halo effect. Since the teachers were not so positive in their ratings on the Over-reaction scale, it would seem that they approached the entire BSAG with reasonable objectivity.

Tutor Attitude Toward School

Absenteeism. The third hypothesis stated that tutors would be absent on fewer occasions during the semester in which they participated in the cross-age helping experience. It was evident from direct inspection of attendance records that this hypothesis would not be supported. Six tutors were absent on more occasions during the tutoring semester than they were during the non-tutoring semester. The remaining two tutors were absent equally as much during both semesters. The author believes this variable was confounded by the outbreak of chicken pox and measles which occurred during the tutoring semester. In view of this, no formal analysis of attendance records was attempted.

Tutor stories. The fourth hypothesis stated that stories written by tutors in response to pictorial representations of school life (SAM cards #1, 3, 4, and 7) would be viewed by independent raters as expressing closer correspondence with the preferred responses of the fourth-grade teachers following the tutors' participation in the cross-age helping experience. Raters' scorings were converted to represent their distance from the preferred response as described earlier (p. 22). A grand mean was computed for each tutor's pre- and post-tutoring story ratings. A correlated samples t-test computed for the mean scores was not significant ($t = 0.05$; $df = 7$; $p = .96$), nor was the Pearson Product-Moment Correlation ($r = -0.03$; $p = .93$), indicating no change in tutor attitude toward school as reflected by ratings of SAM stories.

Had the analysis system employed highly trained raters of known reliability, a more definitive statement regarding tutor attitude toward school might have been made. As it was, pre- and post-test stories were rated in two different sessions. The difference scores may actually reflect a change in raters rather than a change in tutor attitude.

Academic Achievement of Tutors and Tutees

The fifth and sixth hypotheses stated respectively that (1) the academic achievement of tutors would be greater during the time frame of the study than during a comparable period immediately preceding the introduction of the tutorial program, and that (2) the academic achievement of tutees would be greater during the scholastic period

in which they were tutored than it would be during a comparable time period of no tutoring.

Examination of the MAT results revealed intra-subject inconsistency for both tutors and tutees across the three testing occasions. The first administration of the MAT was conducted by the classroom teachers. The experimenter administered the tests on the second and third occasions. It is possible that the different administrators had some effect on the reliability of the obtained scores. It is also possible that the third testing was contaminated by the children's reluctance to cooperate with the experimenter. Because of the noted inconsistency of scores and the probable motivational contamination of the third testing session, no statistical analysis of the MAT results was done. This particular set of data was considered too unreliable and it was not used at all in considering the possible and desired effects of the cross-age helping program.

II. IDIOGRAPHIC ANALYSIS

An idiographic analysis of the data was done, not to test any a priori hypotheses, but rather to look for possible trends within individuals across variables and to ascertain the relationship of these trends to the cross-age helping program. In this analysis, the direction but not the degree of improvement or deterioration was considered. The results (Table 2) were classified on each of three criterion measures according to three categories: change in a positive direction (+), change in a negative direction (-), and no change (0). Only those variables considered dependable enough

TABLE 2
IDIOGRAPHIC ANALYSIS

		SOCIOGRAM	SAM	UR	BSAG OR
Males	Tutor A	+	-	+	+
	Tutor B	0	-	+	+
	Tutor C	+	+	+	+
	Tutor D	+	-	+	0
Females	Tutor E	0	+	+	-
	Tutor F	0	+	+	-
	Tutor G	0	+	+	+
	Tutor H	0	-	+	+

+ = positive change, 0 = no change, - = negative change.

for the previous nomothetic analysis (i.e., sociometric, SAM, and BSAG results) were examined.

Inspection of the data revealed an interesting and unanticipated sex difference for two of the three variables. On the sociometric criterion, three of the four male tutors made positive gains whereas all four females retained their isolate status. The ratings of SAM stories, however, indicated a sex difference in the opposite direction. Here, positive change was noted for three females while only one male changed towards what was considered improved personal-social competence. The contrasting results seemed interesting to the author and, therefore, will be discussed at some length later.

Teacher ratings on the Underreaction scale of the BSAG indicated positive change for all tutors. There was no such consistent result on the Overreaction dimension.

Inspection of Table 2 will show that all of the tutors made positive gains in at least two aspects of the experimental measurement while one male showed improvement on all four variables.

DISCUSSION

The results of the present study offer only limited support for the use of a cross-age helping program as a therapeutic process for socially-isolated children. Of the six predictions made in the study, only one was supported in the nomothetic analysis and the support was partial. The idiographic analysis, however, revealed two noteworthy sex differences. Two of the eight tutors appeared to make substantial gains in their peer relationships as evidenced by their improved social status in the classroom. Some of the children seemingly gained in more subtle ways.

Following participation in the cross-age helping program, two of the eight tutors were no longer isolates according to the second sociometric criterion. It cannot be conclusively stated that the tutors' participation in the tutorial experience per se accounts for their subsequent improved social status. Since the reliability of sociometric results has been shown to be fairly high even with elementary school level children, the author believes the tutors' improved social status to be due to some dynamic factors associated with the tutoring process rather than the unreliability of sociometric results. Sociometric measures are not that unreliable in any case. For example, Byrd (1951), working with fourth-grade pupils, obtained a correlation coefficient of .89 for two sociograms taken over a two-month interval. The present investigation used

fourth-graders also, and a time interval of slightly more than two months between administrations of the sociometric criterion. Byrd's study differed in that the children were allowed unlimited choices whereas the children in the present study were allowed only three choices. Bonney (1943a, 1943b), in a rather extensive study of sociometric reliability, obtained sociometric scores for the same individuals once a year for four years. The subjects were tested first in the second grade and lastly when they were in the fifth grade. Reliability coefficients ranged from .67 to .84 for the one-year intervals between successive grade levels. Mouton, Blake and Fruchter, (1955) summarized 27 studies of sociometric reliability. They concluded that choice status obtained by an individual in a group "remains essentially consistent over considerable periods of time," (p. 19). They claimed this statement to be true for various selection techniques, different criteria used, and kinds of subjects employed. Gronlund (1959) maintained that sociometric results could be used with reasonable confidence at the elementary school level. He stated that the "sociometric status a pupil attains on one sociometric criterion is a fairly reliable index of his acceptance by the group for that particular activity," (p. 126).

The extent of the reliability of sociometric results cited in the literature and the degree of stability of the present study's sociometric data (Table 1, p. 26) lend support to the author's belief that two tutors did, indeed, achieve new and more positive status in their classroom. The two boys (Tutors A and D) who did improve socially according to the sociograms showed marked improvement

at that. Tutor D had one non-mutual choice before his involvement in the cross-age helping program. On the post-tutoring sociogram, he received four choices. The author views this as an extremely significant and meaningful personal gain for this child. In like manner, Tutor A received no choices on the first sociogram, but was chosen by two individuals on the second. Both of these children experienced personally significant reductions in the social distance between themselves and their peers.

One might argue that there was some predisposing factor which set these two boys apart from the other tutors and gave them greater chance to improve their social status. Rather than being the primary cause of the social improvement, the cross-age helping program might have triggered the sociometric outcomes for these two boys. In fact, Tutor D did show stronger leadership tendencies and a more affiliation-seeking, interactive style than the other tutors early in the cross-age helping program when, at the second workshop, he made all of the children join hands and promise to be the best teacher they could. This child might very well have had greater potential for becoming a higher status person in his classroom. The author believes that the cross-age helping program had a positive effect on him and Tutor A in that it provided them with a setting in which they could experiment with establishing clearer social relationships and means of interpersonal interaction.

Approximately half-way through the ten-week tutorial experience, Tutors A and D began having group teaching sessions. The two fourth-

grade boys would arrange four chairs in a cluster and teach their respective tutees together. The general pattern was for all four boys (Tutors A and D, Tutees a and d) to take turns reading whatever book they were currently using. The tutees seemed to enjoy the grouping and the tutors were obviously pleased with the situation since they continued in this vein until the termination of the cross-age helping program.

The author saw this grouping as a highly significant occurrence. Tutors A and D formed a working relationship and even appeared to be close friends by the end of the program. In the groups, the tutors were able to try out methods of interacting and, in a sense, rehearse new roles. The author believes it was this aspect of the cross-age helping program, initiated by the children themselves, that enabled the two boys to better their social acceptance in the fourth-grade classroom.

In view of the seemingly close relationship these tutors had, the experimenter was astonished that neither picked the other on the second sociogram. The boys still had no mutual choices but each was chosen by a considerable (in a personal sense) number of individuals. The author believes that the boys acquired new interactive patterns that served as vehicles for greater social acceptance and desirability.

The grouping behavior of Tutors A and D served as a model for the other children. Soon after they started working together, Tutors B and C decided they would also like to work together. They used the group framework occasionally but not nearly as often as the other two male tutors. It seemed they wanted to try this new way of

teaching but were not able to form an effective working relationship. The notion that Tutors A and D represented desirable models is supported by Tutor C's selection of Tutor A on the second sociogram. He may have felt differently about Tutor A because of the tutorial program. At any rate, Tutor A became a respected individual in the eyes of Tutor C.

It was not surprising to the experimenter that Tutors B and C were not able to form a stable, cooperative relationship. Tutor C was an enigma to her and seemed to be a "difficult" personality from the start. He was the only child to show positive gains on all experimental variables yet ironically, he was also the only child whom the experimenter, at an early point, seriously considered eliminating from the cross-age helping program.

Tutor C did virtually no tutoring for the first several weeks. After receiving some direct guidance from the experimenter, he began to work well with his student. He showed genuine interest in helping his student improve his reading skills. He steadfastly refused merely to tell the tutee words he could not immediately read, instead demanding that the tutee "sound out" the difficult words. As the sessions progressed, the tutee became increasingly reluctant to do this. Tutor C was rigid in his approach and made no attempt to alter positively his tactics. Instead, with a clenched fist, he deliberately struck the tutee whenever the younger child refused to "sound out" difficult words. Tutor C would not try to adjust his style to suit the needs of his tutee. Perhaps the rigidity with which

he approached this situation was characteristic of his approach to people and situations in general. This might have impaired his ability to work with Tutor B for a continued period of time and most probably had some relation to his isolate status.

Apparently, Tutor C did internalize some positive effects from his involvement in the cross-age helping program. Though he was at the center of the most negative episodes occurring in the actual tutoring sessions, he showed the most consistent gains across all analyzed variables in the idiographic analysis. The cross-age helping program may have had a cathartic effect in that Tutor C released his hostilities in the tutoring sessions and was, therefore, better able to assume an appropriate role in his regular classroom. His status as a tutor may have sufficiently increased his social desirability in the eyes of the one child who selected him on the second sociogram to make that child covet his friendship.

The fourth-grade teachers evidently felt better about Tutor C's classroom behavior since they rated him more positively following his participation in the cross-age helping program. Incongruous as it may seem, even during the period when Tutor C was physically attacking his tutee, he was more "likeable" to the experimenter. The physical abuse was at least an indication of the extent of his caring about the younger child. Tutor C was determined to teach the tutee how to read. He openly showed his frustration with the situation by striking the younger child, but he did not stop trying and did not return to his former mode of doing nothing at all. Tutor C had become involved and this, alone, may have been enough to trigger the positive gains he accrued.

Tutor B had a difficult time with his tutee. He became discouraged easily and was not helped by his tutee who absolutely would not sit still. They were a comical pair in the tutoring sessions with the tutee walking around the room, book in hand, reading aloud while Tutor B doggedly trailed along. The tutor complained every step of the way, coaxing and begging his tutee to stay in one spot. Tutor B would typically become despondent and give up, leaving his tutee to his own devices. The experimenter repeatedly helped soothe hurt feelings and re-united the pair. These minor difficulties continued throughout the ten-week period. The experimenter did not consider changing partners since the two boys otherwise got along fairly well.

Tutors B and C both had difficulty establishing viable relationships with their tutees. They wanted to work together in the tutorial sessions but were aware that their grouping was not productive. At one point, Tutor C even stated that he and his tutee did better when they worked alone. In contrast, Tutors A and D had established excellent rapport with their students before they began group work. Tutors B and C might have made greater personal gains had they, too, been able first to establish cooperative relationships with the younger children. The difficulties they were experiencing with their students interfered with their attempts to interact with one another.

The female tutors approached the cross-age helping program very differently from their male cohorts. They seemed to be more interested in "playing school" than did the boys. The girls often brought large

oaktag sheets or artists' pads to use as chalkboards and usually bore a literal multitude of felt-tip pens of all colors. The female tutors propped the pseudo-chalkboards on chairs, sat the tutee in a desk in front, and then stood beside the "chalkboard" to deliver the daily lesson. The directive role of a teacher seemed to surpass all else in importance.

Tutor E frequently wrote lengthy stories for her tutee to read. She printed them on large sheets of paper and followed them with written questions which the tutee was required to answer by filling in a blank. She rewarded her student's endeavors with chocolate chip cookies. Tutor G repeatedly brought tests she had made up. Tutor F purchased a workbook to use with her student and always came to the sessions with a briefcase filled with materials. Tutor H also purchased a workbook of arithmetic problems for her student to complete. She augmented the workbook presentations with sample problems for every kind of arithmetic computation found in the workbook. The girls obviously spent considerable time outside of the tutoring sessions preparing for their time with the younger children.

The boys were much more informal in their approach to tutoring. They occasionally brought books of their own to use, but more commonly relied on the experimenter to supply them with teaching materials. They would often lie on the floor during the tutoring sessions. Tutor C characteristically listened to his tutee read while lying on the floor with his head in his tutee's lap!

Very rarely, two female tutors would decide to work together, but no stable groups ever developed. Every so often, two girls would

teach together, but they would always return to their original dyads. Groupings seemed random and fleeting. The female tutors did not appear to form any close relationships among themselves and this may partially account for their failure to move out of isolation on the second sociogram.

The girls experienced different kinds of problems in the tutorial sessions. At an early point, Tutee e and h complained to the second-grade teachers that their tutors were being too "bossy." The females' tutees were characteristically held in subordinate positions as highlighted by this incident. The tutees were somewhat reluctant to attend the sessions because they were required by their tutors to work too hard.

The male tutors seemed to view the tutorial experience in a more carefree manner than did the females. In effect, the boys were looking for opportunities to socialize. They showed more desire to be friends with their tutees than to be their teachers. They also socialized with one another. This difference probably accounts for the social gains made by the males. They "practiced" socializing in the tutoring sessions and so, became more socially adept. The girls, on the other hand, were consumed by their stereotypic teaching roles. They did not try to cultivate the friendship of the younger children, but rather came to the tutoring sessions with a purpose. They were there to teach and they did not deviate from this course.

One girl, Tutor H, experienced what in the experimenter's view seemed to be deep personal growth over the course of the cross-age

helping program. This was reflected in the stories she wrote in response to SAM cards. The contrast in the two sets of stories written in response to the same cards was remarkable in a clinical sense.

On the pre-test, Tutor H wrote the following story for card #4:

There was once a boy who was reading his story. The class thought it was funny so they laghed (sic) at it. And when they wanted to hear storys (sic) he would tell them! The End.

Contrast that with the post-test story for the same card:

There was once a boy who could not read good and was doing a book report today to read his book or half of it anyway. And since he couln'd (sic) read good he was, pretty bad in reading it. And the other boy's (sic) and girls started snickering and whispering about it and not listening. Because of that the little boy took his paper and went down off the stairs and never ever as long as he lived did he give another book report again because he did not read good. The morall (sic) is listen.

The first story is rather carefree and lacks any real depth while in the second, Tutor H shows a definite insight into the effects of callous behavior on an individual with a problem. She showed this kind of insight in one pre-test story (card #1), but had her character reacting with vengeance.

Once there was a classroom that had a new boy in then (sic) room. They were treating him wrong. Calling him bad names. Then one day the boy got tierd (sic) of it and put his head down. Then one day it happend (sic) to the other children. The boy did it to them. And man they took of (sic) and never bothered him again. The End.

In the post-test story, her character shows more inner strength in the face of adversity.

The little boy is tierd (sic) and sleepy and does not feel good and wants to get some rest. And everybody want (sic) stop snickering at him. So he's just ednored (sic) them. Morall (sic) is don't stop feeling good because somebody makes fun of you.

Being an isolate, it was very probable that Tutor H had been made fun of by other children and a feeling of victimization is apparent in her stories. If the latter two stories are at all indicative of her own reaction pattern, she shows greater maturity in the post-test version where snickering is ignored rather than opportunely used against former antagonists. The victimization theme is still evident in the post-test stories but added to it are insight and self-control. She seems to have acquired situational generalization abilities as indicated by the morals at the end of each story. Her statement, "Morall (sic) is don't stop feeling good because somebody makes fun of you," demonstrates Tutor H's new ability to choose interpretations of events in a more inner-directed fashion. She states, in essence, that how one feels does not have to be determined by external events or individuals. Tutor H seems, now, to be able to interpret events to suit her own needs, thus relying less on other's judgments.

Tutor H worked hard in the tutoring sessions and her tutee seemed to flourish academically. Toward the end of the program, the tutor openly lauded the younger child's accomplishments. She sent notes to the second-grade teachers giving them suggestions for additional work for the child and informed them of her outstanding progress. Tutor H seemed to have gained much self-confidence and appeared to have a better attitude about her own capabilities. She was proud of the work she had done with her tutee and proud of herself. The experimenter believes her SAM stories reflect this new strength and pride and the gain she made as a result of having been a tutor.

Tutor G was unhappy with her lot in the cross-age helping program since she was paired with a male. At the orientation meeting held immediately prior to the initiation of the tutorial experience, tutors were supposed to mingle with and meet all tutees in order to be prepared to select a partner. Tutor G held back, approaching no one at the orientation meeting. It soon became apparent that everyone had paired up with the exception of Tutor G and the boy who eventually became her tutee. The experimenter approached the girl and cajoled her into talking to the younger boy. They did sit together and talk a little but the situation seemed dismal to them. By the next day, Tutor G appeared to have worked through some of her discontent. She had put together, on her own initiative, a folder of learning activities for her tutee and was rather excited about the prospects of tutoring.

During the program, this pair had its ups and downs with much friction resulting from the sex difference. The unequal proportion of male and female tutors and tutees was unfortunate and Tutor G probably suffered as a result. The tutoring aspect of the relationship went as well as any of the other pairs but this tutor might have had more opportunity to learn or experiment with appropriate interactive modes had she been paired with a younger female.

Tutor F kept to herself during the tutorial sessions. She and her tutee chose a spot in the rear portion of the room away from the other pairs. They always worked there and were extremely quiet about anything they did. Tutor F was bothered if anyone, including the

experimenter, approached her area and would stop working until the intruder left. In trying to respect her desire for privacy, the experimenter had little opportunity to learn exactly what the pair were doing. They appeared to get along well and occasionally would team up with another tutor-tutee pair.

Tutor F proudly showed the experimenter any new materials she had brought to use with her student. She was friendly at times but would rather approach others than have them approach her. Her tutee was an extremely quiet child who gave the appearance of being constantly annoyed. She was overly-indulged at home and expected similar treatment at school. She chattered freely with Tutor F but almost never spoke to anyone else. Indeed, these two girls were rather alike and this may have been a detriment to Tutor F's potential social development. The tutee could not have been paired with a better instructor since Tutor F was able to establish rapport with her quickly and the experimenter saw that as no easy task. However, the tutee's narcissistic style may have reinforced the tutor's existing alienating style and desire to be alone.

Tutor E was one of the most hard-working tutors and really tried to help her student with academic skills. She made elaborate preparations for her tutee and was the only child who tangibly rewarded a student for good work. Tutor E seemed to be a likeable child but was rather awkward and the others frequently mocked her clumsiness. She had a tendency to whine a great deal and this may have alienated the other children. Her continued isolation may have resulted from these characteristics.

Tutor E's student complained in the early portion of the cross-age helping experience that her tutor was "mean and bossy." The two had some difficulties relating to one another that they seemed to work through. At the end of the program, Tutor E wrote:

(Tutee e) has been very good. Now me and (Tutee e) are kind of to be more friendly. About each of us. We don't fight any more. I like (Tutee e) since we play games together.

The experimenter does not view the cross-age helping program as having failed this child. She had difficulty relating to others before her involvement as a tutor and also during the initial period of her interaction with Tutee e. She did, however, work through the interaction problems she was having with her tutee and discovered a way of relating to the child that was compatible with both of their styles. She managed to establish a good relationship with the younger girl and most of all, was aware of the changes occurring.

Some of the negative findings of the present investigation might be due to the fact that tutor workshops were not at all what the experimenter had expected or intended them to be. In everyday classroom situations, the children were never required to listen quietly to another child speak in class. For example, it was acceptable to the fourth-grade teachers to have many students milling about the classroom while one child gave an oral report to the class. Although the teachers listened intently to the speaker, they typically neither expected nor attempted to influence the behavior of their class in this direction. During workshops, the tutors would individually address the experimenter concerning teaching difficulties. The other

tutors made no pretense of listening and never seemed to grasp the concept of sharing experiences with one another. The pattern of interaction was primarily child-adult rather than child-child. The experimenter's attempts to change the interaction pattern were in vain.

Workshops were further complicated by the fact that tutors seemed to perceive the experimenter as a powerless substitute teacher. Though she was able to control and direct the children in the tutoring sessions, she had problems associated with setting and maintaining limits in the workshops. The children would all talk at once with a large part of their conversation consisting of cutting remarks aimed at each other. It was the experimenter's impression that the tutors felt a compunction to respond cooperatively only to their regular teachers. In contrast, the tutees were consistently cooperative throughout the program, appearing to make no distinction between their own teachers and any supervising adult.

This study might have been strengthened had the workshops been under the supervision of the regular fourth-grade teachers. The tutors probably would have responded more readily to their direction and the original purpose of the workshops might have been realized.

The tutors disliked being required to attend workshops. They resented the fact that workshops took away from their teaching time. The children were not interested in organized planning meetings or shared discussions of tutoring episodes and activities. They would have been happy had they been able to meet with the younger children five days a week and do any planning on their own.

Workshops were low status situations for the tutors in comparison to the higher status tutoring sessions. The tutors had much responsibility in the tutoring sessions and probably felt important in their roles. The fourth-graders were in command in the tutoring sessions whereas the experimenter directed the workshops. Being at a workshop was like being in a regular classroom and offered little gratification to the tutors.

In summary, this cross-age helping program produced positive effects for some of the children who participated as tutors. Tutors A and D showed denotable gains in the sociometric status. Tutor C became highly involved in the teaching situation, avidly wanting his tutee to be able to read with ease. Tutor E struggled in a difficult relationship with her tutee until she actually succeeded in finding a compatible interaction pattern with the younger child. Tutor H became more inner-directed in her interpretation of situations and more cognizant of other people's sensitivities.

A rigorous experimentalist might not term these gains significant but the author, admitting probable but not fully-determined biases, is convinced that some children profited from involvement in this study. The full personal significance of the tutoring experience can, however, hardly be understood or determined by anyone other than the tutors themselves.

In general, the author strongly feels that the psychodynamic effects of cross-age helping programs deserve further investigation in light of both previous research and present results. Though all

hypotheses were not supported, some children made definite social gains. In the experimenter's judgment, any improvement in an individual child's social status constitutes reason enough for the further use of a cross-age helping program as a process for improving children's classroom relationships. Future research is, however, warranted to investigate further the scope of the possible effects of cross-age helping programs viewed as therapeutic processes for children. Suggestions for future research follow.

IMPLICATIONS FOR FUTURE RESEARCH

There is still much necessary research to be done before definitive statements can be made concerning the efficacy and worth of the cross-age tutorial program. The present investigation aided in bringing to light some interesting aspects for this research.

In addition to using sociometric choices as indicators of tutor social status in the classroom, it would be interesting and crucial to observe the actual interaction patterns of tutors in their regular classroom. Baseline data could be gathered concerning the number of times tutors approach and are approached by other students, the accepting or rejecting responses of the students, the degree of appropriateness of tutor behavior in relation to the other members of the class, etc. Continued observation over the course of the cross-age helping program would bring to light changes in tutors' behavior patterns. It would be most interesting to determine the kinds of changes most likely to occur. For instance, would tutors tend to be approached more by their classmates during their involvement in the cross-age helping program and if so, would this indicate that the tutor role was coveted and admired by the other children? If tutors approached other children more often, might this be indicative of greater self-confidence?

In the same vein, these observations would also provide the experimenter with a means to assess alterations in tutor attitude toward school that would have greater strength and meaning than the present study's more indirect assessment through ratings of SAM stories.

The present investigation premised that attendance was an indicator of attitude toward school. In examining changes in absenteeism connected with involvement in a cross-age helping program, only certain kinds of absences would be of interest. Since serious illness cannot be prevented and necessitates absence, the experimenter should not include tallies of these absences in his investigation of absenteeism. Absence of a more questionable nature would be a more valid indicator. The experimenter would catalogue them as they occurred and a priori state a decision rule for categorizing absences explained by parents and physicians, making certain types of excuses legitimate and others not. For instance, absence because the child "did not feel well" might not be considered legitimate whereas absence because of sore throat and fever might be legitimate. The decision for determining which absences would be legitimate would be at the discretion of the experimenter. A decrease in the number of "non-legitimate" absences during the cross-age helping program would indicate improved attitude toward school through the child's greater desire to be present at school.

Future researchers might interview parents regarding their children's attitudes toward school before and during their participation in a cross-age helping program. Of special interest might be the morning hours before the start of the school day. How much coaxing or threatening is necessary to motivate the child to get up and get ready for school? Is there any change in this pattern during the tutorial program?

It would also be interesting to determine whether or not teachers' overt interaction with tutors changes as a result of the children's

participation in the cross-age helping program. This could be determined through naturalistic observations of teacher behavior in relation to the tutors. One could examine the ways teacher behavior changes in conjunction with or because of attitude change as denoted by the BSAG or a comparable instrument. This could be determined through systematic observation of teacher and tutor behavior in the regular classroom during routine teaching/learning activities.

Since the three consecutive administrations of the MAT were marked by intra-subject inconsistency across testing sessions for both tutors and tutees, it would seem advisable for future researchers to select another means of measuring academic gains. If sample size is small, an individual test, such as the Wide Range Achievement Test, might be used. Hopefully, the examiner would be aware of any motivational or personal factors that might cause test results to be inflated or depressed. Clinical observation and explanations could be made more readily and more accurately than would be possible in a group testing situation. Should the experimenter employ any measure of academic performance whatsoever, it would seem highly advantageous to incorporate a reward system into the testing situation so as to prevent or circumvent students' impaired motivation prompted by frequent and repeated test taking.

Since the teachers' ratings on the Underreaction scale of the BSAG yielded more positive results than their ratings on the Overreaction scale, it may be that involvement in the tutor role can be expected to have positive effects on withdrawn, shy children or with

that aspect of children's personalities. The respected position of tutor may help the child overcome some feelings of inconsequence or inadequacy. On the other hand, aggressive or hostile behavior may in no way be affected by the cross-age helping program. Children in the present investigation were selected because of their social isolation, not because of any typical behavior styles. It would be desirable to know more specific information about the consequences of the tutor role for shy versus aggressive children. This could be accomplished by selecting tutors on the basis of their behavioral styles. Teacher ratings could be employed to determine these styles and naturalistic observations would provide a means of identifying the differential consequences of participation in a cross-age helping program for shy and aggressive children.

The present study employed a pre-/post-test design and the implications of its results were probably limited because of the unavailability of a control group. Future investigators would be well advised to employ a group of socially-isolated youngsters as controls in order to examine the social gains they make over time with those made by socially-isolated children involved as tutors in a cross-age helping program.

The present investigation does not differentiate between the effects of workshop and tutoring involvement on socially-isolated children but instead treats the tutoring/workshop situation as a total and complex process. Workshops provide tutors with close interaction with an adult on a regular basis. The adult attention in

itself might have substantial impact on tutors' social functioning, perhaps more than the role of tutor. The differentiation between workshop and tutoring effects could be accomplished by using two control groups with one group attending small group meetings once a week under the supervision of an adult, hence comparable to the tutor workshops in this study, and one group receiving no special treatment. Varying changes among the three groups, one experimental and two controls, might offer some explanations for the effects of workshops alone on socially-isolated youngsters versus the effect of workshops plus tutoring experience.

The current tutoring program might have had different effects had it been under the direct supervision of the regular fourth-grade teachers. Some of the rapport difficulties associated with the experimenter's involvement might have been circumvented or dealt with more adroitly under these circumstances. It would be interesting to investigate the effectiveness of various program supervisors in eliciting gains for child participants and, thereby, determine which individuals would make the best supervisors for cross-age helping programs. In addition, one might seek to ascertain the attributes that characterize these individuals.

Concurrent with this, there is yet much to be learned about structuring the tutorial program so as to produce optimal effects. For instance, what is the optimal age mix for tutor-tutee pairs? Is there a minimum age difference between teacher and student that is necessary for efficient learning to occur? Is there a maximum age difference after which the advantages of a child-child relationship are cancelled out?

How should youngsters be paired? Is cross-age tutoring in some ways superior to peer tutoring in certain situations? What characterizes these situations? Should pairs be of the same sex? If pairs are not matched by sex, do male tutors with female tutees make more significant gains than do female tutors with male tutees? Might the reverse be true? What are the advantages and disadvantages of cross-sex pairings? What effects do differences in tutor and tutee socioeconomic and familial backgrounds have on the outcome of cross-age tutorial pairings?

Who benefits the most from involvement in the cross-age helping program? Males? Females? Underachievers? Potential delinquents? Aggressive youngsters? Withdrawn youngsters? Tutors? Tutees?

In addition to examining the outcomes of the tutorial program, it might be advantageous to examine the process of tutoring. What are the psychodynamics of the process? What personal changes might be expected to occur for youngsters involved in the tutoring program? Are the changes more characteristic of tutors or tutees?

The cross-age helping program has an almost limitless number of aspects yet to be investigated. Even without knowing the answers to questions such as those mentioned above, the author contends that the cross-age helping program, as a psychological and educational strategy, merits further attention from researchers interested in its therapeutic effects for children experiencing social difficulties.

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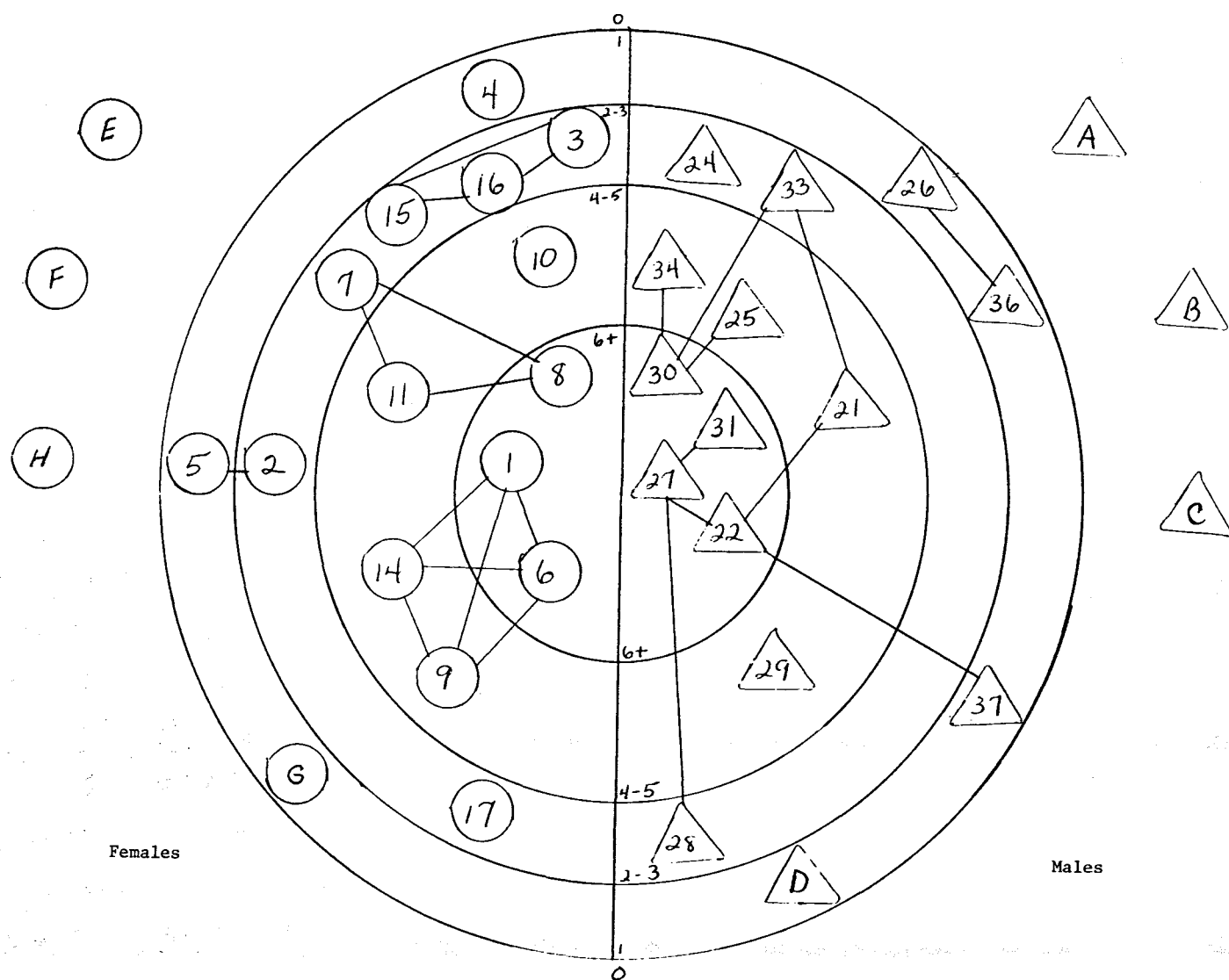
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APPENDICES



APPENDIX A

Figure 1. Pre-tutoring sociometric target.

Choices Given

Females

Males

Choices Received

Mutual Choices

SS OS	1	2	3	4	5	6	7	8	9	10	11	E	F	14	15	16	17	G	H	21	22	B	24	25	26	27	28	29	30	31	C	33	34	D	36	37	
30	1						③		①					②																							
30	2					①		3	2																												
30	3			3																			①②														
30	4								1	2	3																										
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30	6	②							③																												
30	7	3						②			①																										
30	8							①			3	②																									
30	9	①					③																														
30	10	2					1																														
30	11							①②		3																											
30	E							1	2		3																										
30	F					2																															
30	14	①						③		②																											
30	15		3	①																																	
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30	G	2						3																													
30	H	3								1																											
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APPENDIX B

Figure 2. Pre-tutoring sociometric matrix.

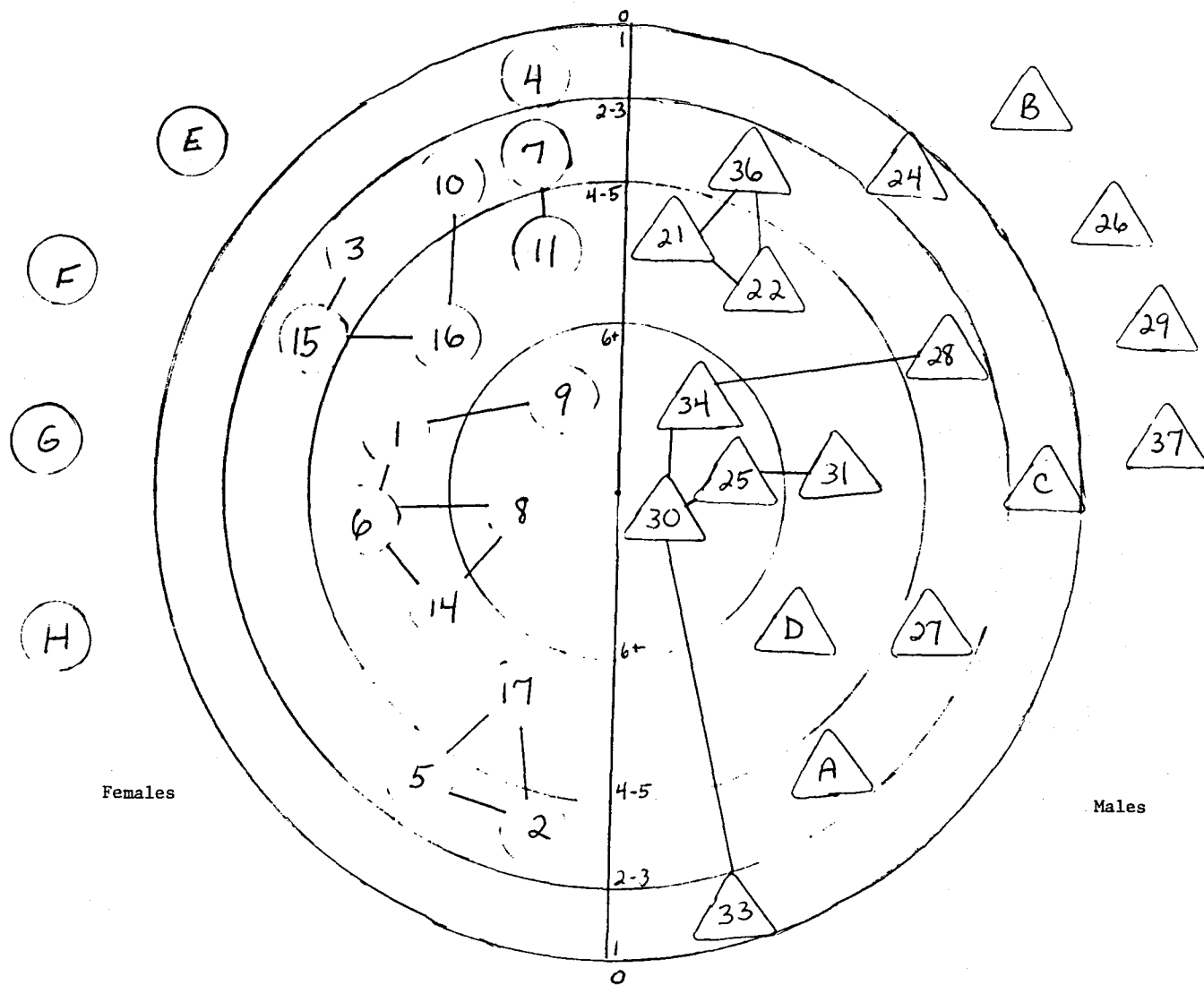


Figure 3. Post-tutoring sociometric target.

Choices Given

Females

Males

Choices Received

Mutual Choices

SS 05	1	2	3	4	5	6	7	8	9	10	11	E	F	14	15	16	17	G	H	A	21	22	B	24	25	26	27	28	29	30	31	C	33	34	D	36	37
30	1						①											③																			
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SS	5	3	2	1	2	5	2	6	8	3	4	0	0	4	3	4	5	0	0	2	5	5	0	1	7	0	2	3	0	7	5	1	1	8	7	3	0
05	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
55	3	2	1	0	2	3	1	2	1	1	0	0	3	2	2	0	0	0	0	2	2	0	0	3	0	0	1	0	3	1	0	1	3	0	2	0	
05	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
1	2	3	4	5	6	7	8	9	10	11	E	F	14	15	16	17	G	H	A	21	22	B	24	25	26	27	28	29	30	31	C	33	34	D	36	37	

Figure 4. Post-tutoring sociometric matrix.

APPENDIX E

TUTORS

	<u>Age</u>	<u>Parents</u>	<u>Siblings</u>
A White male	9-9	living together	1 sister
B Black male	9-6	living together adopted	1 sister
C White male	10-1	natural mother adoptive father	2 sisters
D White male	9-9	divorced	none
E White female	9-7	living together	none
F Black female	9-5	living together	1 brother
G White female	9-1	divorced	1 sister
H White female	9-3	divorced	none

TUTEES

	<u>Age</u>	<u>Parents</u>	<u>Siblings</u>
a White male	8-1	living together	1 sister
b White male	8-2	living together	1 sister 1 brother
c White male	7-8	living together	2 brothers
d White male	9-6	living together	1 brother
e Black female	8-1	living together	1 sister
f Black female	7-6	living together	1 brother
g Black male	8-8	living together adopted	1 sister
h White female	7-11	living together	2 sisters

APPENDIX F

At the last workshop, the tutors wrote statements about what they were doing in the tutoring sessions, what they wanted to accomplish in the coming week, and how well their students were doing. Their statements follow:

- Tutor A: Read storys (sic) with (Tutee a). I will teach him math with (Tutor D).
- Tutor B: Last week I worked with (Tutor C). This week I will try to work with him well. (Tutee b) is doing fine.
- Tutor C: I worked with (Tutor B) and we all read comics together. Baing (sic) attintion (sic) with reading. He is goofing off alot (sic).
- Tutor D: I worked with (Tutor A) last week. This week I'll be teaching with (Tutor A). My student is doing good.
- Tutor E: Mon. I read a story and did very good.
Tues. I came down and nobody was hear (sic) so we stayed for about five min: but you didn't come so we went back up.
Wed. I taught math with (Tutee e). She is doeing (sic) better than I thought.
Thur. I did reading out of a book.
Fri. I worked with (Tutor G). We read the story the wind and the sun. They liked it very good stories.
Mon. I finished the story The wind and the sun. It was good. (Tutee e) loved it. P.S. (Tutee e) has been very good. Now me and (Tutee e) are kind of to be more friendly. About each of us. We don't fight any more. I like (Tutee e) since we play games together. Wed. I will do reading, Thur. I will bring a game with math friday I will bring a revue (sic) of the week and have a cookie.
- Tutor F: I worked with (Tutor E) last Friday. And I am going to work with (Tutor G) everyday but Friday because we have fun.
- Tutor G: We read (Tutee g) as (sic) been next week we are going to sleep.
- Tutor H: I did math with my student last week she got excellent grades. She got excellent great magnificant. She is doing good. Me and my student this week are going to do math so she can get good grades on her report paper.

APPENDIX G

Rating Scale for SAM Stories

Teacher is:

1	2	3	4	5
permissive				strict

1	2	3	4	5
unstructured				structured

1	2	3	4	5
boring				interesting

1	2	3	4	5
rejecting				accepting

1	2	3	4	5
bad				good

1	2	3	4	5
unsympathetic				sympathetic

1	2	3	4	5
judgmental				nonjudgmental

1	2	3	4	5
suspicious				trusting

Schoolwork is:

1	2	3	4	5
unpleasant				pleasant

1	2	3	4	5
unsuccessful				successful

1 drudgery	2	3	4	5 fun
1 bad	2	3	4	5 good
1 boring	2	3	4	5 interesting
<u>Schoolmates are:</u>				
1 unsympathetic	2	3	4	5 sympathetic
1 rejecting	2	3	4	5 accepting
1 judgmental	2	3	4	5 nonjudgmental
1 suspicious	2	3	4	5 trusting
1 passive	2	3	4	5 aggressive
1 noncompetitive	2	3	4	5 competitive
1 boring	2	3	4	5 interesting
1 bad	2	3	4	5 good

VITA

Rose Patton was born in Brooklyn, New York on February 13, 1948. She attended elementary schools in Roosevelt, New York and was graduated from Roosevelt High School in 1966. The following September, she entered the University of Rochester, and in June, 1970, received a Bachelor of Arts degree in Psychology. She entered the Graduate School at The University of Tennessee in September, 1970. She fulfilled a doctoral internship in School Psychology at Peabody Demonstration School, George Peabody College for Teachers, Nashville, Tennessee during the academic year 1973-74. She received the Doctor of Philosophy degree with a major in School Psychology in March, 1975.