AN EVALUATION OF THE EFFECTS OF GROUP PROBLEM SOLVING MEETINGS ON THE LOCUS OF CONTROL AND ACHIEVEMENT OF CHILDREN

BY

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AN EVALUATION OF THE EFFECTS OF GROUP PROBLEM SOLVING MEETINGS ON THE LOCUS OF CONTROL AND ACHIEVEMENT OF CHILDREN

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by

Donna Rodwig Kelly

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To the Graduate Council:

I am submitting herewith a Research Paper written by Donna Rodwig Kelly entitled "An Evaluation of the Effects of Group Problem Solving Meetings on the Locus of Control and Achievement of Children." I recommend that it be accepted in partial fulfillment of the requirement for the degree of Master of Arts, with a major in Psychology.

Linda Rudolph
Major Professor

Accepted for the
Graduate Council:

William H. Ellis
Dean of the Graduate School

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CHAPTER I

INTRODUCTION

During the past few years, there has been an increase in the amount of research focusing on the effectiveness of group counseling in the elementary school as a tool for helping children with developmental problems and for prevention and remediation of learning and social problems (Dinkmeyer, 1969; Dreikurs and Sonstegard, 1967). Group counseling has led to a change in numerous adjustment variables. Positive changes in attitudes toward school, learning, peers, teachers, attendance, and self-concept have been found (Crow, 1971; Lodato, Sokoloof, and Schwartz, 1964; Mann, 1968). Blocher (1966) stated the group counseling experience could provide a setting for sharing and resolving personal concerns. Sonstegard (1968) concluded that group counseling could be effective in helping children learn the mechanics of social and democratic living. Another investigation (Kranzler, Mayer, Dyer, and Munger, 1966) found significant increases in sociometric status among children involved in group counseling.

Additionally, there has been some evidence (Coleman, 1966; Glasser, 1969) that the extent to which a pupil

feels responsible for his own actions and the result of those actions is related to achievement. Coleman (1966) has stated that "The extent to which a pupil feels he has control over his own destiny is strongly related to achievement" (p. 123).

Glasser (1969) contends that an effective method for teaching children to feel responsibility and therefore enhance achievement, as suggested by Coleman (1966), is through the use of group counseling or classroom discussion groups. However, there appears to be little research in the literature to evaluate the effectiveness of group counseling on the student's locus of control and academic achievement. Therefore, it is the purpose of the present study to investigate the effectiveness of group counseling on locus of control and academic achievement.

Effectiveness of Group Counseling on Academic Achievement

The use of group precedures in the elementary school has ranged from small group counseling with students to large classroom group guidance activities (Zimpfer, 1971). Glasser (1969) believed in the importance of group problem-solving meetings. He stated,

> When children enter kindergarten, they should discover that each class is a working problem-solving

> unit and that each student has both individual and group responsibilities. By discussing group and individual problems, students can usually solve their problems within the classroom. They learn that, although the world may be difficult, they can use their brains individually and as a group to solve the problems of living in their school world. (p. 123)

Glasser has also said that above the value of learning to solve their problems, students can gain in achievement. He has stated that classroom meetings can make school a more relevant place for students, build student involvement in learning, and bring success rather than failure. Other researchers, such as Phillips and Wiener (1972), are in agreement with Glasser and feel strongly that group discussions or classroom meetings can be used to foster academic or achievement goals.

Williamson (1950) stressed the importance of teaching decision-making skills in the counseling process. In addition to decision-making, he contends, as does Glasser (1969), that counselors should promote the process of problem-solving behaviors. The problem-solving counseling group can provide an atmosphere for students to counsel and be counseled (Blocker, 1966).

Many attempts have been made to study the relationship of group counseling and achievement. In a review of the effects of counseling on achievement, Tyler (1961) noted that many such studies have been conducted with underachievers serving as the subjects. Underachievers have been defined as students whose performance does not measure up to their abilities. The results of such studies have yielded both positive and negative findings in their attempts to show the effectiveness of group counseling.

Broedel, Ohlsen, Proff, and Southard (1960) studied the extent to which group counseling improved the mental health and academic performance of ninth grade gifted underachieving adolescents. Their sample was composed of 29 students divided into four groups, two experimental and two control groups. Each experimental group met for one class period twice each week for eight weeks for group counseling sessions. The control groups received no treatment. Growth of clients was measured by: (a) academic performance on the California Achievement Test Battery and grade point averages; (b) acceptance of self and others as revealed in responses to the Picture Story Test; and (c) behaviors in interpersonal relationships reported on the Behavior Inventory. The results

of the Broedel, et al., (1960) study indicated that the underachievers had improved scores on achievement tests, increased acceptance of self and others and had improved their ability to relate to peers, siblings, and parents.

Serene (1953) presented evidence to support the conclusion that counseling underachievers can improve academic achievement. Underachievers assigned to the experimental group were taught methods of improving study habits during the counseling sessions. They received a book on how to study, and the elements of effective study were discussed. The control groups received no treatment. Subjects' grades were correlated with their I.Q. scores before and after the counseling. The experimental group made significant gains toward bringing achievement closer to their ability levels, while the control groups did not gain significantly in achievement.

A comparison of three counseling methods of assisting underachieving high school students was undertaken by Baymur and Patterson (1960). Their hypothesis was that if emotional factors are involved in underachievement, counseling could be effective in reducing underachievement. The subjects were nine high school girls and 23 high school boys designated as

underachievers if their percentile rank, based on class grades, was 25 or more points below their percentile rank on the Differential Aptitude Test. The students were assigned to one of four groups. Group I received individual counseling once a week for 12 weeks. Group II was involved in nine weekly group counseling sessions. The students in Groups I and II were informed of the purpose of the study, but were not restricted to discussing academic problems only during the sessions. Group III met only once to inform the students that they were underachievers and to encourage them to work toward better grades. It was explained that some groups would be receiving help, but that their group would not. Group IV was a control group and received no treatment. The results indicated that subjects involved in the group counseling sessions made significant gains in achievement. There was no significant improvement in the grades of students in the other three groups. The authors felt that their results were encouraging and suggested that underachievers could benefit from group counseling.

Stasek (1955) counseled with underachievers in an attempt to determine if counseling could improve achievement. Two experiments were performed. The

subjects in the first experiment were organized into experimental and control groups, with the experimental group receiving counseling for the first semester of the subjects' sophomore year. The second experiment followed the same procedure, but subjects were seniors enrolled in the same school. The experimental groups showed significant gains in both the number of students who improved and the degree of improvement. In experiment number one, the average number of grade points of improvement was 0.95 for the experimental group and 0.28 for the control group. In experiment number two, the average number of grade points of improvement was 1.23 for the experimental group and 0.63 for the control group. The authors felt that this study indicated the possibility that counseling can help underachievers bring their level of achievement up to their potential.

Jensen (1955) believed that underachievers do not possess adequate problem-solving skills. To test this hypothesis, a study was conducted using 10 children in second, third, and fourth grades, whose classroom performance had not measured up to their intelligence. The study involved a combination of remedial instruction for one hour and group counseling for another hour. This special program lasted four days a week throughout the

school year. The first few sessions were directed toward identifying the problem. Later sessions were designed to help pupils gain insight and understanding of individual problems. Eight out of 10 students made improvements in the following: (a) gains in reading, writing, and spelling as measured by standardized and informal tests; and (b) improvement in independent work and classroom academic skills.

A study was undertaken by the State Department of Education in Florida to show the effectiveness of elementary guidance (1976). One of the conclusions drawn from this study was that students who were seen five or more times by the counselor, either individually or in groups, showed significant improvement in their grades over those of the previous year.

Nevertheless, not all results seem to be favorable in assessing the effects of counseling on academic achievement. Crow (1971) compared three methods of group counseling to determine which method was most effective in working with underachievers. The three techniques were a structured aural approach, a structured visual approach, and an unstructured approach. She sought to determine the effect of group counseling on seven variables: self concept, sociometric status (work criterion), emotional

expansiveness (work criterion), sociometric status (play criterion), teacher rated behavior, and grades. The experimental group consisted of 36 students enrolled in the sixth grade; 60 sixth graders served as control subjects. All subjects in the experimental groups, regardless of the counseling treatment, gained in all variables studied with the exception of grades.

Another study that does not support the contention that group counseling brings about a positive change in achievement was conducted by Clements (1963). The subjects involved were 144 underachieving male students divided into two counseling groups, two individual counseling groups, and two control groups for each grade level (fifth, eighth, and tenth grades). The counseling groups met one hour per week with a school psychologist for 16 weeks. The subjects involved in individual counseling received an equal amount of time with the school psychologist. The control groups did not receive counseling. The results did not show a positive change in achievement. However, it was discovered that a majority of students had a long-term negative attitude toward homework, and they had a lack of communication with their parents concerning educational goals. As a result, the author felt that short-term counseling

was not sufficient to bring about positive changes.

A review of the literature reveals conflicting results regarding the effectiveness of group counseling as a means for improving achievement, especially with underachievers. Additionally, there seems to be a need for more research using subjects at the elementary level since much of the research has focused on junior high or senior high school students.

Relationship of Locus of Control to Achievement

It has been suggested that one characteristic of a pupil may have a strong relationship to achievement--how strongly a pupil feels that he has control over events that form his destiny (Coleman, 1966; Glasser, 1969). Locus of control is the degree to which someone believes that he or she is able to influence the outcome of any given situation (Crandall, Katkovsky, and Crandall, 1965). There is a growing interest in this characteristic of locus of control and the relationship that it may have to achievement or other factors relevant to the world of education (Reimanes, 1970).

Many writers and researchers have felt that the effect of a child's belief that he is responsible for his intellectual successes and failures is related to his achievement. McGhee and Crandall (1968) have stated

that,

> It seems probable that the degree to which a child believes that his own behavior is responsible for his academic successes and failures will affect his instrumental effort to attain these goals. The child who feels that success or failure is a consequence of his own behavior should show greater initiative in seeking intellectual rewards and greater effort and persistence in intellectual tasks and situations. A child who feels that his rewards and punishments are given him at the whim or design of other people or circumstances has little reason to exert effort in an attempt to increase probability of obtaining reward and avoiding punishment. (p.92)

Coopersmith (1975) stated,

> People with strong achievement motivation generally are self-confident individuals who are at their best taking personal responsibility in situations where they can control what happens to them. They set challenges demanding maximum effort, but goals which are possible to attain; they are not satisfied with automatic success that comes from easy goals nor do they try to do the impossible. They take

pride in their accomplishments and get pleasure from striving for the challenging goals of excellence they set. (p. 224)

A study by Nowicki and Roundtree (1971) was concerned with showing the relationship of locus of control to school achievement, popularity, involvement in extracurricular activities, family ordinal position and I.Q. Thirty-eight females and 49 male twelth grade students served as subjects. The Nowicki and Strickland Locus of Control Scale was used to measure locus of control. The locus of control was found to be related to achievement for male subjects; however, no such relationship was found for the female subjects.

McGhee and Crandall (1968) have studied the predictive ability of the Intellectual Achievement Responsibility Questionnaire to measure academic achievement. The subjects were 923 elementary, junior high, and high school students. The results indicated that report card grades of both boys and girls were positively correlated with locus of control for the subjects in grades six through 12, and achievement test scores were positively correlated to locus of control in grades three through five.

Reimanis (1970) conducted a study to determine

the changes in achievement striving in the kindergarten. He predicted that the achievement striving behavior of kindergarteners who possess a feeling of internal reinforcement control with respect to achievement behavior and social approval would be high. Children low on internal reinforcement control were expected to be low on achievement striving. Forty-five boys in four kindergarten classes were chosen as subjects. Data measuring achievement striving behavior were collected through observation during achievement activities. Each child was observed during a free work or play period and rated on a 0 - 3 scale. A score of 0 indicated no evidence of achievement striving; 1 meant striving for less than half of the observation period; achievement striving for more than half, but not the whole observation period was rated 2; and complete absorption in the task for the complete 20 second observation period was rated 3. Subjects' scores were averaged for each day and summed separately for the first two-week and the second two-week period. Adequate comparisons could not be made between internal reinforcement control and academic achievement. However, teacher observations indicated that the group of low internal reinforcement control students seemed to underachieve to a greater extent

than those in the high internal reinforcement control group.

Reimanis (1973) designed a study to examine the interrelationship among several measures of locus of control and their individual relationships to academic achievement and intelligence. The subjects involved were 201 elementary school pupils in grades three through six. Three measures of locus of control were used: (a) a cartoon type questionnaire by Battle and Rotter (1963); (b) a 23-item scale developed by Bialer (1961); and (c) the Intellectual Achievement Responsibility (IAR). The results indicated that the best predictor of school achievement was the IAR scale.

Statement of the Problem

The research reviewed failed to indicate a positive relationship between locus of control and achievement in all cases. There seems to be little evidence in the literature to show the effects of group counseling on the locus of control of elementary pupils. Since a review of the research does indicate some positive results from group counseling with children in many areas, it seems possible for the group counseling experience to have positive results on the locus of control and academic achievement of children. It is therefore the purpose

of the present study to further investigate the effects of group problem-solving meetings on the locus of control and academic achievement of elementary school children.

CHAPTER II

METHODOLOGY

Subjects

The subjects participating in the present study were 22 students functioning on second grade level at Marshall Elementary School in Fort Campbell, Kentucky. The students were randomly divided into an experimental group and a control group. The experimental group consisted of 5 boys and 6 girls. Two girls in the control group transferred to another school before the completion of the study.

Procedures

All subjects were pre-tested with the Metropolitan Achievement Test and the Intellectual Achievement Responsibility Questionnaire, a measure of locus of control, during the last week of September, 1978. Each test was administered and scored according to the directions in the manual. To avoid reading difficulties, the subjects were given oral administration of the Intellectual Achievement Responsibility Questionnaire. One week after the pre-test, the counseling sessions were begun. The experimental group met for 10 weekly counseling sessions, approximately 30 minutes in duration. The counseling sessions emphasized the group problem-solving

process as described by Glasser (1969). The control group received no treatment. During the first week of December, 1978, the Metropolitan Achievement Test and the Intellectual Achievement Responsibility Questionnaire were again administered as post-tests.

Instrumentation

Metropolitan Achievement Test.

The Metropolitan Achievement Test, Form F, designed for second grade level students, was administered as both a pre- and post-test measure of academic achievement. The reliability of this test has been obtained by the use of split-half coefficients, corrected by the Spearman-Brown formula, and the Kuder Richardson Formula 20. The validity of the test is defined in terms of content validity of the curricular areas. The raw scores were computed for all students on both the pre- and post-test measures for both the reading and math sections.

Intellectual Achievement Responsibility Questionnaire.

The Intellectual Achievement Responsibility Questionnaire (IAR) (Crandall, Katkovsky, and Crandall, 1965) was used as the measure of locus of control. This instrument was devised to assess beliefs concerning internal and external responsibility in intellectual-academic and achievement situations. The test consists of 34

forced-choice items. Each item has two alternatives of sentence completion; one representing an internal response, and the other representing an external response. The scale is designed to use two subscores or a total of the subscores to provide a general index of internal beliefs. The (I+) score shows belief in internal responsibility for success. The (I-) score shows internal response for failure. The total I score (Itot) indicates the total internal responsibility beliefs. To avoid reading difficulties, the IAR was administered orally. A total I score (Itot) was computed for each subject on both pre- and post-test measure.

CHAPTER III

RESULTS

The data included in the present study consists of pre- and post-test scores from the Intellectual Achievement Responsibility Scale (IAR) and pre- and post-test scores from the reading and math sections of the Metropolitan Achievement Test (MAT). Correlation coefficients were computed for the variables by using the Pearson product moment correlation method and were then tested for significance using multiple regression analysis.

The IAR pre-test accounted for .180 of the variance between groups. When treatment was considered, $R^2 = .190$; therefore, treatment accounted for .01 of the total variance between the groups. Multiple regression analysis indicated that this difference was not significant ($F = .856$; $p > .05$).

The MAT math pre-test accounted for .640 of the variance between the two groups. When treatment was considered $R^2 = .644$. Hence, the treatment only accounted for .004 of the total variance in this case. This result was also not statistically significant ($F = .116$; $p > .05$).

The MAT reading pre-test accounted for .752 of the variance between groups. When treatment was considered,

R^2 = .767. Again, the treatment only accounted for a small (.015) portion of the total variance. This result was also not significant (F = .335; $p > .05$). The analysis of the data indicates that subjects receiving treatment made no significant gains in achievement or feelings of internal locus of control.

Interestingly enough, the correlation coefficients for the Intellectual Achievement Responsibility pre- and post-test scores seem to indicate that this locus of control test was not a very reliable test as a predictor of achievement inasmuch as the correlations were so low.

CHAPTER IV

DISCUSSION

The purpose of the present study was to investigate the effects of group counseling on academic achievement and locus of control. In light of the available literature, the evidence is conflicting in support of group counseling as being an effective method for improving academic achievement and feelings related to locus of control.

The results of the present study are in agreement with those of Crow (1971), whose study did not show an improvement in grades for the experimental group. Clements (1963) also conducted a study that does not support the hypothesis that counseling would be accompanied by positive change in achievement. The present author feels as Clements in suggesting that a short-term study may not be effective in producing positive results.

The studies conducted by Jensen (1955) and Serene (1953) were interesting in that they combined group counseling with actual instruction. Serene (1953) actually taught students involved in the counseling process how to develop better study habits. Jensen (1955) combined counseling with remedial instruction. Both studies achieved positive results, which indicated that both methods were effective. Since the present

study did not combine instruction with counseling this could be viewed as a possible reason for results that were not significant.

There seems to be no evidence in the literature to show the effects of group counseling on the locus of control. There are some writers who contend that locus of control is related to achievement (Coleman, 1966; Glasser, 1969). However, the research is conflicting as to exactly how the two are related (McGhee and Crandall, 1968).

After evaluation of the available literature, it appears that a short term study, such as the present study, does not reveal the most significant results. Perhaps a long-term study could be performed to see if positive significant results could be obtained. The small number of subjects (N=20) may also have been a factor in producing results that are not significant. It is possible that the present findings are a result of too small a sample, too few counseling sessions, or other variables associated with working with children of elementary school age.

Although no significant results were shown for the improvement of locus of control or academic achievement, the researcher did make some valuable observations.

During the group counseling sessions, many children who seemed withdrawn in the total classroom atmosphere were willing to take part in the small group discussions. The students looked forward to the counseling sessions with enthusiasm and became involved with the problem-solving process.

Inasmuch as most of the studies in the literature relative to the effects of group counseling are conflicting and most have been conducted with junior high or high school students, it would seem that additional study in this area would be helpful. Additionally, since there is little research in the area of locus of control and its relationship to academic achievement, this would seem to be an area worthy of further study.

CHAPTER V

SUMMARY

The purpose of the present study was to determine the effects of group counseling on the achievement and locus of control of students in elementary grades. The studies reviewed indicated evidence for and against the hypothesis that group counseling would improve achievement. The evidence for how the locus of control and achievement are related is not clearly defined.

For the present study, a sample of 20 second grade level students were pre-tested with the Intellectual Achievement Responsibility Questionnaire to measure locus of control. The Metropolitan Achievement Test was given as a pre-test to measure academic achievement. The experimental group (N = 11) received 10 one-half hour counseling sessions emphasizing the problem-solving process. The control group (N = 9) received no treatment. Subjects were then post-tested with the Intellectual Achievement Responsibility Questionnaire and the Metropolitan Achievement Test.

Scores for the two groups were analyzed with the Pearson product moment correlation technique and multiple regression analysis. No significant differences were found as a result of the treatment.

TABLE 1

Correlations Between Variables - Experimental Group

	Pre IAR	Po IAR	Pre Ma	Pre Re	Po Ma	Po Re	$\bar{X}$	SD
Pre IAR		-.116	-.031	-.147	-.218	-.033	21.09	3.34
Po IAR			.057	-.160	.068	-.140	23.00	4.00
Pre Ma				.514	.803	.617	33.90	10.30
Pre RE					.670	.892	53.36	17.87
Po Ma						.754	48.09	13.38
Po Re							61.63	19.21

TABLE 2

Correlations Between Variables - Control Group

	Pre IAR	Po IAR	Pre Ma	Pre Re	Po Ma	Po Re	$\bar{X}$	SD
Pre IAR		.703	.545	.808	.685	.703	20.44	5.63
Po IAR			.547	.702	.716	.511	23.66	5.86
Pre Ma				.801	.868	.531	38.22	10.23
Pre Re					.939	.859	59.55	15.43
Po Ma						.817	50.33	7.9
Po Re							63.00	19.4

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