

The Woman's College of
The University of North Carolina
LIBRARY



CA
no. 325

COLLEGE COLLECTION

Gift of
Dorothy McLean Baucom

SCHOOL PERFORMANCE OF EIGHTH GRADE STUDENTS

FROM BROKEN HOMES

by

Dorothy McLean Baucom

A Thesis Submitted to
the Faculty of the Graduate School at
The Woman's College of the University of North Carolina
in Partial Fulfillment
of the Requirements for the Degree
Master of Science in Home Economics

6574

Greensboro
1963

Approved

Irwin V. Sperry
Irwin V. Sperry, Director

APPROVAL SHEET

This thesis has been approved by the following committee of the Faculty of the Graduate School at the Woman's College of the University of North Carolina, Greensboro, North Carolina.

Irwin V. Perry
Thesis Director

Oral Examination
Committee Members

Donald W. Russell
Louise Lowe
Savannah S. Day

March 29, 1963
Date of Examination

253718

ACKNOWLEDGMENTS

The writer wishes to express her deep appreciation to Dr. Irwin V. Sperry, director of the thesis, for his constant guidance and encouragement throughout this study; to Miss Louise Lowe, Mrs. Savannah Day and Dr. Donald Russell, other members of the committee; to Dr. Whitfield Cobb, for valuable assistance with the statistical procedures; and to the staff of Carr Junior High School for help with records used in securing data for this study.

D. M. B.

TABLE OF CONTENTS

CHAPTER	PAGE
I. THE PROBLEM AND DEFINITIONS OF TERMS USED . .	1
The Problem	2
Statement of the problem	2
Importance of the study	2
Definitions of Terms Used	3
Broken homes	3
Unbroken homes	4
Small family	4
Large family	4
Attendance	4
Subject grades	4
Conduct grades	5
Intelligence quotient	5
Age	5
Organization of Remainder of the Thesis . .	5
II. REVIEW OF THE LITERATURE	6
Statements by Authorities of the Effects of Broken Homes	6
Research studies Relative to Broken Homes .	11
III. PROCEDURE	17
The Situation	17
The Sample	18

CHAPTER	PAGE
Techniques	19
Attendance	20
Metropolitan Achievement Test	21
Subject grades	21
Conduct grades	21
Student Education Questionnaire	22
IV. ANALYSIS OF THE DATA	23
Attendance	25
Achievement Scores	26
Subject Grades	27
Conduct Grades	28
Education Questionnaire	30
V. SUMMARY AND CONCLUSIONS	32
Summary	32
Conclusions	36
Limitations of the study	37
Recommendations for further research	37
BIBLIOGRAPHY	40
APPENDIX A	43
APPENDIX B	44

LIST OF TABLES

TABLE	PAGE
I. Letter Grades and their Numerical Equivalents	4
II. Attendance Percentages for Students from Unbroken and Broken Homes	26
III. Grade Equivalents from Metropolitan Achievement Tests for Students from Unbroken and Broken Homes	26
IV. Mean Subject Grades for Students from Unbroken and Broken Homes	28
V. Conduct Grades for Students from Unbroken and Broken Homes	29
VI. Scores on Student Education Questionnaire for Students from Unbroken and Broken Homes . .	30
VII. Attendance Percentages of Paired Students From Unbroken and Broken Homes	44
VIII. Grade Equivalents on the Metropolitan Achievement Test of Paired Students from Unbroken and Broken Homes	45
IX. Mean Subject Grades of Paired Students from Unbroken and Broken Homes	46
X. Conduct Grades of Paired Students from Un- broken and Broken Homes	47
XI. Scores on Educational Questionnaire of Paired Students from Unbroken and Broken Homes . .	48

CHAPTER I

THE PROBLEM AND DEFINITION OF TERMS USED

More than a million American homes are broken by death, desertion, separation, and divorce each year.¹ Many children are affected by these broken homes. Perhaps the child's economic security as well as his emotional security suffers from this loss of a parent. Some people say that a lack of security will show inferior results in the child's school performance. The Federal Security Agency estimates that "there are about 2,500,000 paternal orphans under eighteen and that nearly 750,000 dependent children are receiving aid through the Social Security Act."² Many children in our public school system come under this classification.

With these facts in mind, the investigator decided to study the school performance of students from broken homes. Teachers and school administrators might have a better understanding of these pupils if information were available which would indicate what to expect from such a student.

Luella Cole states that "high school students from

¹George Thorman, Broken Homes, Public Affairs Pamphlet No. 135 (Public Affairs Committee, Inc., 1947), p.1.

²Maxwell S. Stewart (ed.), Problems of Family Life (New York: Harper and Brothers, 1956), p. 147.

broken homes do poorer schoolwork and rate lower on personality scales than do those who come from complete families."³

In Carr Junior High School in Durham, North Carolina, the number of students belonging for the year 1960-1961 was 924 of which 306 were eighth grade students. Of this number 258 lived with both parents, eleven lived with other relatives, and 37 lived with their mothers. Can it be said that this last group from broken homes does not show a school performance equal to that shown by the students from unbroken homes?

I. THE PROBLEM

Statement of the problem. It was the purpose of this study to determine whether there is any significant difference between eighth grade pupils of Carr Junior High School who come from broken homes and those who do not in regard to school grades, scores on scholastic achievement tests, attendance, conduct, and opinions about education.

Importance of the study. Several teachers and also other individuals have expressed the opinion that certain students were not maintaining an acceptable record in school and that this was due to the fact that they came from broken

³Luella Cole, Psychology of Adolescence (New York: Rinehart and Company, Inc., 1959), p. 440.

homes. Such statements were based upon the assumption that the broken home was the deciding factor. However, the investigator could find no justification for such assumption other than personal opinion.

Several authors⁴ have written that broken homes do cause emotional and personality difficulties. On the other hand, Campbell⁵ states, "As a result of the statistical study of the achievement quotients of children in the sixth and seventh grades, we may say that the broken home appears to have no effect upon the child's achievement in school when achievement is regarded as accomplishment over a period of years." Thus we see that there is a difference of agreement and that in many cases it may be opinion rather than fact.

II. DEFINITIONS OF TERMS USED

In order to clarify certain terms used in this study, definitions of these terms, as used, are listed below.

Broken homes. A home in which the children are living with only one parent is called a broken home. In

⁴Ibid.; Leigh Peck, Child Psychology (Boston: D. C. Heath and Company, 1953), p. 508; Lora Ella Pierce and Louise Langford, "Do Broken Homes Affect Personality Adjustment?" Journal of Home Economics, 50:44-46, January, 1958.

⁵Marian Wendeln Campbell, "The Effect of the Broken Home Upon the Child in School," Journal of Educational Sociology, 5:281, January, 1932.

this particular study there were no students found to be living only with a father; therefore the term broken home refers here to a home in which the children live with a mother with no father being present at the time of the study.

Unbroken homes. Unbroken homes refers to homes in which children are living with both parents.

Small family. A family in which there is only one or two children is referred to as a small family.

Large family. A large family indicates a family with three or more children.

Attendance. The percentage of attendance was used and was based on the actual number of days attended divided by the total number of days enrolled.

Subject grades. Subject grades were the recorded letter evaluations of the quality of work in the different school subjects. A yearly average was recorded from the six grading periods each consisting of six weeks. The letter grades were assigned numerical equivalents.

TABLE I
LETTER GRADES AND THEIR NUMERICAL EQUIVALENTS

Letter grade	Numerical equivalent
A	5
B	4
C	3
D	2
F	1

These numerical grades were averaged and the resulting value was the one used in this study.

Conduct grades. Conduct grades were the teachers' recorded evaluation of the student's behavior. These letter grades were given the same numerical values as the subject grades above.

Intelligence quotient. In this study the intelligence quotient was the one most recently recorded in the student's cumulative folder.

Age. Age refers to the chronological age of the student based on the birthdate recorded in the student's cumulative folder.

III. ORGANIZATION OF THE REMAINDER OF THE THESIS

The remainder of the thesis is organized into chapters which include (1) a review of the literature concerning the school performance of children from broken homes, (2) a discussion of the methods and procedures used in this study, (3) an analysis of the findings using a matched sample of twenty-five pairs of students from broken and unbroken homes, and (4) a summary of the study, conclusions, and the limitations of the study.

CHAPTER II
REVIEW OF THE LITERATURE

As previously stated more than a million American homes are broken by death, desertation, separation, and divorce each year.⁶ These broken homes and their shattered human relationships are of great concern to many people and have been the subject of several articles and pamphlets. Some authors claim that the child from such a background lacks emotional security and shows the effect in his work and behavior. Still other writers state that there are no statistics upon which to base this assumption.

I. STATEMENTS BY AUTHORITIES OF THE
EFFECTS OF BROKEN HOMES

Since the general public is becoming increasingly aware of broken homes in America, many people are quick to give opinions as to the far-reaching effects of this situation when there is little or no basis for such conclusions. Broken homes do exist whether or not they have serious effects upon the children therein:

The broken home exists everywhere, even without divorce: one parent may have died, deserted his family, or been put into an institution. Among 4,400 high school seniors in one state in 1953, 20 per cent of

⁶Thorman, loc. cit.

the homes were broken--11 per cent by death of one parent, 7 per cent by divorce, and 2 per cent by separation.⁷

Margaret Mead points out that the American conditions which lead to marriage (as opposed to European arranged marriages where social, economic, and family tradition is most important) make a small family unit in which "a child's status in America is primarily a function of its parents' status."⁸ She states that this modern home, presided over by two young parents, represents to the child "a tiny island of certainty, of fixed standards in a sea of shifting and contradictory social values."⁹ Thus she points out that the child in America must cling to his parents and identify himself with them in order to gain any assurance of security.

However, Stewart states that we do not always get a true picture of the situation:

About two-thirds of the people who obtain divorces have no children. Most of the rest have only one child. This would seem to indicate that the alarm about divorce affecting children is sometimes exaggerated. For while the total number of children affected by divorce each year is estimated to be 150,000 to 200,000, only about 3.5 per cent of all ¹⁰ children in the United States have divorced parents.

In the broader meaning of the term "broken home" we must also look upon those broken by other reasons. Stewart

⁷Cole, loc. cit.

⁸Margaret Mead, "Broken Homes," Nation 128:254, February 27, 1929.

⁹Ibid.

¹⁰Stewart, op. cit., p. 152.

tells us that about 50,000 homes are broken each year by desertion.¹¹ Pecks says that many thousands of children each year lose one parent by death, divorce, desertion, prolonged hospitalization, or imprisonment.¹² This last author claims that the child loses material security and also suffers emotional turmoil by the loss of a parent. However, Dr. Peck does believe that the disrupting influence to the personality integration is more often the case when the home is broken by divorce or desertion than by death. He goes on to say that some parents are able to shield their children from bitterness and resentment in spite of divorce or desertion.¹³

Stewart states that homes broken by various causes present a tragic story in that millions are deprived of a normal, happy family life and the child's feeling of economic and emotional security is removed.¹⁴ This resulting damage to the child's security may come indirectly as well as directly, for the remaining parent may feel a threat to his or her emotional and financial security which in turn makes it difficult for this parent to care for the children properly.

According to Margaret Mead, the "child's standard of values, point of departure, haven of security is broken."¹⁵

¹¹Ibid.

¹²Peck, op. cit., p. 414.

¹³Ibid., p. 508.

¹⁴Stewart, op. cit., p. 146. ¹⁵Mead, loc. cit.

In our society, where children tend to rely upon their parents for all things, a broken home results in "a severe shock, a profound disturbance of their sense of social solidarity."¹⁶ For this very reason she would encourage all children to become self-reliant as early as possible.

In the case of divorce, some children fear that they could have prevented the divorce, that they are no longer loved, that they no longer belong, that their friends are patronizing, and that their own lives may be a repetition of the parents' lives of conflict. This emotional conflict is further complicated by changed living conditions with added economic insecurity and great home responsibilities.¹⁷

Thorman suggests that this emotional security must be combated by constant assurance that the child is loved and wanted.¹⁸ In the case of separation or divorce unhappiness and emotional upset may have been started by the events which led to the breakdown of the marriage.¹⁹ Dorothy Cohen states, "All children whose pattern of life changes abruptly suffer some confusion and bewilderment at best, real crippling of the spirit at worst."²⁰

¹⁶ Ibid.

¹⁷ Louise Harmon, "When Homes are Broken," Journal of Home Economics, 50:332, 1959.

¹⁸ Thorman, op. cit., p. 2. ¹⁹ Ibid., p. 3.

²⁰ Dorothy H. Cohen, "Children of Divorce," Parents' Magazine, 35:47, August, 1960.

The literature referred to thus far has indicated emotional stress but has not related it directly to school performance. One author did make this connection. Louise Despert²¹ says that lack of emotional support in the case of the divorced family has more damaging results than mere material deficiencies. Under this stress the child may have difficulties in school. A move to a new school may be even more disastrous at this time. She therefore advocates continuing in the same school whenever possible.

Referring to a child of divorced parents, Despert says:

He did badly in school, and finally his disturbing, destructive behavior prompted the principal to call the mother in and insist that the boy could not stay unless he was given psychiatric treatment. . . . In a sense it was fortunate for Dannie that his delinquency at school revealed his trouble and brought him help. . . . A child's behavior does not always call attention to his need so obviously. He may only become quieter, eat poorly, sleep badly, or do inadequate work at school. A child who retreats into himself and is docile and obedient at home and at school may not get the help he needs.²²

Referring to an adolescent whose parents are about to get a divorce, this same author states, "Thus he pondered, and his work at school, which had been good until now, began to suffer so that the school principal called his mother for a conference."²³

²¹J. Louise Despert, Children of Divorce (New York: Doubleday and Company, Inc., 1953), pp. 67-102.

²²Ibid., p. 103.

²³Ibid., p. 113.

Just as the above mentioned student reacted to the family crisis prior to the legal divorce, so it may be with many students. In other words, there may be no legal signs of a turmoil within the family circle and yet the child's background may be far from secure. Despert²⁴ goes so far as to say that:

. . . the largest proportion of these children who fall foul of the law come from families which are emotionally broken, without having their disharmony overtly recognized by a recourse to law. Divorce is not the beginning of the child's troubles. Divorce is the end result of a conflict which has already engulfed the whole family.²⁵

In referring to comparisons in adjustment of children from broken and unbroken homes, Nye says that, although some projects favor the unbroken home, still it is not known whether children are better adjusted in "homes psychologically broken, but legally and physically intact compared with legally broken homes."²⁶

II. RESEARCH STUDIES RELATIVE TO BROKEN HOMES

All the literature quoted thus far has been general statements or references to isolated cases. There are a few

²⁴Ibid., p. 119.

²⁵Ibid., p. 167.

²⁶F. Ivan Nye, "Child Adjustment in Broken and in Unhappy Unbroken Homes," Marriage and Family Living, 19:356, 1957.

studies based upon research. Paul Torrance²⁷ made such a study at Georgia Military College for the 1943-1944 term. He hoped to find some implications for the problems in secondary schools of adolescent boys from broken homes. Of the 514 adolescent boys enrolled, 182, or 35.5 per cent, were from broken homes. These were paired with those from unbroken homes. When the two groups were contrasted, the greatest difference occurred in the area of serious maladjustment resulting in dismissal. There were fifteen dismissals from the broken home category and none from the paired groups and only two others from the remainder of the total school population:

The broken home group showed 2.4 times as many cases of retardation as the paired group, 1.8 times as many accelerated, 3 times as many cases of underachievement, 1.83 times as much overachievement, 2.1 times as many exhibited behavior problems, 1.3 times as many emotional problems, 1.3 times as many social problems, and 3.75 times as many health problems.²⁸

Thus Torrance concluded that "boys from homes broken by separation or divorce by far present more behavior problems and practically all of the dishonorable discharges came from this group."²⁹ He even goes so far as to state, "First, in many cases of abnormal behavior in boys from broken homes,

²⁷Paul Torrance, "The Influence of the Broken Home in Adolescent Adjustment," Journal of Educational Sociology, 18:359-364, February, 1945.

²⁸Ibid., p. 360.

²⁹Ibid., pp. 361-362.

the difficulty can be clearly traced to the broken home and its origin can usually be dated from the time of the 'split'.³⁰

Dr. C. J. Wardle, consultant in child psychiatry for North Lincolnshire, England, made a one year investigation near London of 185 children that showed "significant differences in symptoms between children with one parent who had suffered a broken home in childhood and those with both parents apparently from intact homes."³¹ He was studying these children in regard to disorderly conduct (defined as delinquent, antisocial, or aggressive) and neurotic behavior, that is, those showing anxiety, depression, timidity, obsessional features, shyness or inhibition.

On the other hand, Marian Wendeln Campbell³² says that the broken home appears to have no effect upon the child's achievement in school when achievement is regarded as accomplishment over a period of years. This was a conclusion as the result of statistical study of the achievement quotients of children in the sixth and seventh grades. Campbell further concludes:

. . . the study of 64 cases of boys seems to indicate that although the school work of a child may be affected by the broken-home situation while he is

³⁰Ibid.

³¹"Broken Homes Cycle," Science News Letter, 80:116, August, 1961.

³²Campbell, loc. cit.

under stress, he is likely to recover when the stress is removed. The survey of 27 girls from homes of divorcées where the separation had been of long standing indicates that the average child is not affected by the broken home either in conduct or school achievement after the period of stress is passed.

Another study was made a few years later by Dr. Nehemiah Wallenstein in the New York City area. Over three thousand children in grades five through eight in five public schools were studied. Of these, five hundred fifty were from broken homes. A battery of fourteen personality and character tests were given to approximately two-thirds of these children. This was done "to determine the extent to which a broken-home situation, or 'broken-home-ness' as such, is measurably associated with the character and personality development of children exposed to it."³³

Wallenstein stated that a child from a normal home is unconsciously

. . . permeated with the wholesome feeling of belonging to an intact protective group. On the other hand, it is reasonable to suppose that the child of a broken home is constantly aware of the fact that he belongs to an impaired organism, and is therefore irrevocably 'different' from other children. This awareness may lead to emotional disturbances and bad mental hygiene, even in cases where the status of the family did not change in any other way after the fatal impairment of the home.³⁴

³³Nehemiah Wallenstein, Character and Personality of Children from Broken Homes (Teachers College, Columbia University Contributions to Education, No. 721. New York: Bureau of Publications, Teachers College, Columbia University, 1937), p. 77.

³⁴Ibid., p. 3.

As a result of his study, Wallenstein concluded that children from broken homes, especially those from homes broken by death, were found to be comparatively retarded in school grades. He also concluded that children from homes broken through divorce, separation, or desertion were on almost the same footing as normal home children in reference to I.Q. and socio-economic status, whereas children from homes broken by death were found to be lower in these two respects. He also stated that a "broken-home situation seems to be more disadvantageous to boys than to girls."³⁵ A last conclusion was that "being subjected to a broken home situation is associated with inferiority in certain aspects of character and personality as far as elementary children are concerned."³⁶

Several years after this study, Pierce and Langford studied the personality adjustment of ninety-seven students from a small junior high school. Twenty-eight per cent of these lived in broken homes. The California Test of Personality was used. From their findings they concluded that "the mere fact that a home was unbroken did not assure the good development of the adolescent personality."³⁷

³⁵Ibid., p. 81.

³⁶Ibid., p. 83.

³⁷Pierce and Langford, op. cit., p. 46.

Although several writers may say that broken homes do provide an inadequate and insecure background for the child there is little proof of this theory. Moreover other writers present conflicting opinions.

CHAPTER III

PROCEDURE

The eighth grade students of Carr Junior High School in Durham, North Carolina, were selected as the subjects of this study. Those who came from broken homes were paired with similar students from unbroken homes. The factors considered in the pairing process were sex, size of family, intelligence quotient, employment status of the mother (whether she worked outside the home or not), and the chronological age of the subject. The necessary information was obtained from the school records and compared in the matched samples in regard to attendance, achievement test scores, mean subject grades, and conduct grades. The Hieronymus Student Education Questionnaire was administered to determine their attitudes toward education and the results were compared to the matched sample.

I. THE SITUATION

Carr Junior High School was the largest of the three junior high schools for white pupils in Durham, North Carolina, in the school year 1960-1961. There were nine hundred twenty-four students enrolled in the seventh, eighth, and ninth grades and a teaching staff of thirty-eight. Of this entire student body, three hundred six students were enrolled

in the eighth grade. Thirty-seven of the eighth graders lived with their mothers, and a father was not present in the home. The reason for the absence may have been due to death, divorce, or desertion; but this was not considered in this study.

II. THE SAMPLE

In order to determine which of the eighth grade students came from broken homes, a questionnaire was given each student. (See Appendix A.) The questions on the sheet also verified other necessary information which was recorded on the student's cumulative folder.

When these completed questionnaires were returned, it was possible to categorize the students into small broken families, large broken families, small unbroken families, and large unbroken families. This information was verified from the student's cumulative folders which were kept in a vault in the principal's office. At the same time the intelligence quotients were obtained from the cumulative folders and recorded on the same questionnaire sheets. In the case of more than one intelligence quotient, the most recent information was used.

The students from broken homes were then paired with similar students from unbroken homes. The factors considered in the pairing process were sex, size of family, intelligence quotient (within a range of five points either way), status of the mother (whether she worked outside the home or not),

and the chronological age (within a range of six months either way).

Some of the records were incomplete because the students had transferred from other schools. This made it impossible to match five of the students from broken homes. In seven other cases it was impossible to match the student in all respects with one who came from an unbroken home. Thus it was possible to match twenty-five pairs in all required factors. Eleven of these were boys and fourteen were girls.

III. TECHNIQUES

Data concerning date of birth, family composition, parental employment, and whether the child lived with one or both parents were secured from a questionnaire filled out by the students and verified by the school permanent records. Students from broken homes were compared with matched students from unbroken homes in regard to attendance, achievement test scores, mean subject grades, conduct grades, and attitudes toward education.

The original information necessary to match the pairs was recorded on a filing card. This was consulted when the school files were searched in order to secure matching students from unbroken homes. Similar cards were filled out for the students who came from unbroken homes and the paired cards were clipped together. The information obtained in the major part of the research was also recorded on these

cards so that it would be easily accessible throughout the study.

Whenever data were recorded on tables for the purpose of comparison, code numbers were used. Thus "U1" referred to the first student from an unbroken home and "B1" referred to the matched student from a broken home. All data were so listed in corresponding columns down to "U25" and "B25" which referred to the final matched pair.

Attendance. School records were next studied to obtain attendance figures of the fifty students selected for the study. In each case, the attendance was listed under days belonging, days present, and days absent for both the sixth and the seventh grade. By dividing the days present by the days belonging, the investigator obtained the percentage of attendance for both years. These two values were averaged to reach a final value of the attendance percentage. From these values a table was constructed as shown in Appendix Table VII with the columns of attendance percentages beside the code number for each student. The first column indicated the students from unbroken homes and their corresponding attendance percentages were recorded in the second column. The third column listed the students from broken homes with their attendance percentages in the fourth column. Thus it was possible to show a comparison in the case of each pair of students. Column D recorded the differences in the percent-

ages of students from unbroken and broken homes. The values in this column were then squared and recorded in the last column.

Metropolitan Achievement Test. The next item considered was the achievement score in each case. The first week in May when the students were in the sixth grade they had been given the standard Metropolitan Achievement Test in the various subject areas. In each case the student's grade equivalent had been recorded in the cumulative folder. These facts were recorded in columns on a data sheet as shown in Appendix Table VIII in a procedure similar to that used for the attendance data.

Subject Grades. The third item under consideration was the recorded grades in the different subjects studied in the sixth and seventh school years. These letter grades were converted to numerical equivalents as previously stated. Under each year a mean was obtained and these two scores were averaged to give a final score which was used in Appendix Table IX. The same comparative procedure was used as in the preceding tables.

Conduct Grades. When this study was first started conduct grades were not taken into consideration since they are the least objective of the grading areas and also one in which conflict of personalities tend to alter the results. However, when the cumulative folders were searched for the above information, those for students from broken homes

were noted to contain several inserted comments which stated behavior problems or disciplinary difficulties. Of course, these statements were not consistent enough to be used in this study. However, the investigator decided it might be valuable to compare the conduct grades of these students as recorded on their cumulative folders. Again, these letter grades were converted to numerical equivalents and recorded in Appendix Table X.

Student Education Questionnaire. Next the fifty students under study were administered a forty-six item questionnaire developed by A. N. Hieronymus³⁸ to determine their attitudes toward education. For each question there were five possible answers. The student selected and checked the one which came nearest to expressing his feeling about the statement. Each response was given a value from one to five according to the standard key. The resulting score in each case was recorded in Table VI.

³⁸ A. N. Hieronymus, "A Study of Social Class Motivation: Relationships Between Anxiety for Education and Certain Socio-Economic and Intellectual Variables," Journal of Educational Psychology, 42:193-205, 1951.

CHAPTER IV
ANALYSIS OF THE DATA

The purpose of this study was to determine whether there was any significant difference between eighth grade pupils of Carr Junior High School who came from broken homes and those who did not in regard to 1) attendance, 2) achievement scores, 3) mean subject grades, 4) conduct grades, and 5) attitudes toward education.

Since many people have stated that the insecurity of a broken home will have an effect upon the school performance of the student, the investigator wanted to secure data which would either support or fail to support this theory. In order to arrive at a conclusion statistically the null hypothesis^{38a} was used: namely, that there was no significant difference between the school performance of the eighth grade students at Carr Junior High School in regard to attendance, achievement scores, mean subject grades, conduct grades, and attitudes toward education. If the data indicated that there was a difference greater than that which could be attributed to the element of chance, then the difference was significant and the null hypothesis was rejected. In such a case the difference in the scores could be said to be significant but

^{38a} Oliver L. Lacey, Statistical Methods in Experimentation (New York: The MacMillan Company, 1953), p. 31.

the determining factor for the difference could not be established.

The twenty-five pairs under study was a small sample, thus it was necessary to use a formula which would test the significance of a difference between small paired scores. Such a formula is listed in Diamond³⁹ as follows:

$$t^2 = \frac{(n-1)(\sum D)^2}{n\sum D^2 - (\sum D)^2}$$

In each variable considered there were twenty-five pairs, so $n = 25$. The scores for each pair in the sample were listed in corresponding columns. Consequently it was possible in each case to determine the difference. If the second value was less than the first there was a positive difference. If, however, the second value exceeded the first, there was a negative difference which indicated a reversal in the trend under investigation. The differences, listed under "D" were then squared and recorded under column "D²." By adding these two columns $\sum D$ and $\sum D^2$ were determined. Then the formula for t^2 could be applied in each case by inserting the proper figures. By using a square root table,⁴⁰ the investigator established the value of t . The t table⁴¹ determined the significance of this value.

³⁹Solomon Diamond, *Information and Error*. (New York: Basic Books, Inc., 1959), p. 105.

⁴⁰Lacey, *op. cit.*, pp. 233-241.

⁴¹*Ibid.*, p. 243.

All the necessary data are listed in the Appendices.

Attendance. From the cumulative folders of each student the attendance figures were obtained. These were transformed into percentages by dividing the days present by the days belonging for both the sixth and the seventh grades. These two values were averaged to reach a final value of the attendance percentage.

It is noteworthy that only one student out of the fifty studied had a perfect attendance record. She came from an unbroken home. The range of attendance percentages for students from unbroken homes was 84.5 per cent to 100 per cent. The range for students from broken homes was 86.0 per cent to 99.0 per cent. For students from broken homes the mean was 94.8 per cent whereas for students from unbroken homes the mean was 93.5 per cent. The difference is 1.3 per cent in favor of the students from unbroken homes (Table II). The aforementioned formula was applied to give t^2 a value of 1.28. The square root table showed $t = 1.13$ which is less than the value at the ten per cent level of significance for 24 degrees of freedom. The small difference may have been due to chance in the small sample. Therefore the null hypothesis was not rejected and it can be stated that the small difference in the attendance of the students from broken homes and those from unbroken homes in this study may have been due to chance.

TABLE II
ATTENDANCE PERCENTAGES FOR STUDENTS FROM
UNBROKEN AND BROKEN HOMES

	Unbroken*	Broken*	Difference
Range	84.5 - 100	86 - 99	
Mean	94.8	93.5	1.3

*n = 25

Achievement Scores. The results of the Metropolitan Achievement Tests were recorded in Appendix Table VIII. These were listed in terms of grade equivalents. The range for students from unbroken homes was 5.0 - 10.1 while the range for students from broken homes was 4.8 - 9.7. The respective means were 7.4 and 6.9 with a difference of .5 (Table III).

TABLE III
GRADE EQUIVALENTS FROM METROPOLITAN ACHIEVEMENT
TESTS FOR STUDENTS FROM UNBROKEN
AND BROKEN HOMES

	Unbroken*	Broken*	Difference
Range	5.0 - 10.1	4.8 - 9.7	
Mean	7.4	6.9	.5

*n = 25

The difference in each pair was calculated and squared to

give the column under " D^2 ." The sums of columns "D" and " D^2 " were used in the formula for " t^2 ." Thus " t^2 " = 2.95. From the square root table the value of "t" was found to be 1.72. This is less than the value of "t" at the five per cent level of significance with 24 degrees of freedom. Therefore, it can be stated that there was no true difference in the achievement scores of those students from broken homes and those from unbroken homes in this study.

Subject grades. The subject letter grades for the sixth and seventh grades were converted to numerical equivalents as shown in Table I. A mean grade was obtained for each year and these two values were averaged to give a final mean subject grade for each of the fifty students. Appendix Table IX lists these grades for the matched pairs studied, the difference, and " D^2 ." The range for the students from unbroken homes was 4.8 to 2.6; and for students from broken homes, 5.0 to 2.0 This indicated that the students from broken homes made both better and poorer mean subject grades than students from unbroken homes. In fact there were two cases of "A" averages among the former and none among the latter. The mean in the case of the unbroken home was 3.7 and in the case of the broken home it was 3.6 with a difference of only .1 (Table IV).

TABLE IV
 MEAN SUBJECT GRADES FOR STUDENTS FROM
 UNBROKEN AND BROKEN HOMES

	Unbroken*	Broken*	Difference
Range	2.6 - 4.8	2.0 - 5.0	
Mean	3.7	3.6	.1

*n = 25

From the formula, " t^2 " was found to be .29. Therefore " t " equaled .54. This is not significant at the ten per cent level. Therefore it can be stated that there was no true difference in the mean subject grades of those students from broken homes and those from unbroken homes in this study.

Conduct Grades. In view of the fact that the conduct grades were more nearly categories and could be said to be divided into those of students who presented problems in the conduct area (namely below five) and those who did not (recorded as five), the chi-square test of independence⁴² was used.

$$\text{chi-square} = \frac{(f_o - f_e)^2}{f_e}$$

⁴²Diamond, op. cit., p. 150.

TABLE V
 CONDUCT GRADES FOR STUDENTS FROM UNBROKEN AND
 BROKEN HOMES

Conduct Grade	Unbroken	Broken
Five	16	9
Below five	9	16

The facts for the above table were obtained from the data in Table X. The formula was applied and chi-square was found to equal 3.92. Since there was only one degree of freedom in this table, it was necessary to look in this row for the values of chi-square significant at the five per cent and one per cent levels. In this case the value for chi-square (3.92) is slightly larger than the value listed at the five per cent level for one degree of freedom,⁴³ which is 3.841. Therefore in this instance the null hypothesis that there was no difference between the conduct grades of those students from broken homes and those from unbroken homes was rejected and it could be stated with confidence that the conduct grades of students from unbroken homes were significantly higher than those of students from broken homes. However, it is difficult to interpret such differences

⁴³Lacey, op. cit., p. 244.

since grading in the conduct area is probably more subjective and may be less accurate than in the other areas.

Education Questionnaire. The final scores on the Hieronymus forty-six item Student Education Questionnaire which was administered to the matched pairs of students were recorded in Table XI. The range for students from unbroken homes was 125 to 203, and for those from broken homes the range was 154 to 204. For students from unbroken homes the mean was 179.5 and for students from broken homes the mean was 180.4. The difference was -.9 or it could be stated that the mean was slightly higher in the case of the students from broken homes.

TABLE VI
SCORES ON STUDENT EDUCATION QUESTIONNAIRE
FOR STUDENTS FROM UNBROKEN
AND BROKEN HOMES

	Unbroken*	Broken	Difference
Range	125 - 203	154 - 204	
Mean	179.5	180.4	-.9

*n = 25

From the formula " t^2 " was found to equal .12. The square root table showed "t" to equal .35. This is not significant at the

ten per cent level. It must be noted that this is the only area in which the students from broken homes scored higher than those from unbroken homes. However the difference is so small that again the possibility of chance cannot be ruled out. Therefore it can be stated that in the sample study there was no significant difference between the students from broken homes and those from unbroken homes in their attitudes toward education.

CHAPTER V

SUMMARY AND CONCLUSIONS

I. SUMMARY

Many children in schools throughout the country come from homes which have been broken by divorce, death, or desertion. Regardless of the cause, the children are left in incomplete backgrounds. Many people state that this leads to emotional and psychological insecurity which, in turn, affects the students' performance in school.

Several writings were found which advanced this theory but were not substantiated by statistical facts. One or two studies were based upon isolated cases. A few studies gave statistics. However these statistics were contradictory and gave little weight to any conclusion except in the social and emotional behavior of the students from broken homes. Thus it is evident that there is disagreement as to the effect that a broken home has upon a student's performance in school.

School administrators and teachers might have a better understanding of these students through further research. This study was undertaken in an effort to obtain data which would either tend to show a relationship between broken homes and school performance or fail to do so.

The investigator compared the school performance of

students from broken homes with that of students from unbroken homes in the eighth grade at Carr Junior High School, Durham, North Carolina. By means of a questionnaire given to all the eighth grade students, it was found that thirty-seven students resided with their mothers and no father was present in the home. Of this number it was possible to match twenty-five with students from unbroken homes with respect to sex, age, size of family, employment status of mother (working outside the home or not), and intelligence quotient. From the cumulative folders records were obtained on these students in regard to attendance percentages, Metropolitan Achievement Test scores, mean subject grades, and conduct grades. The students were also given the Student Education Questionnaire to determine their attitudes toward education. All these raw data are listed in the appendix.

With each variable the difference between the matched pairs was noted. The hypothesis was that no significant difference existed between the matched pairs under study. The formula for small paired scores was applied except in conduct. With this variable the chi-square test of independence was used since the scores seemed to divide more naturally into two categories, those who gave trouble (below five) and those who did not (five).

The results are summarized below:

1. Attendance: The difference in the attendance

percentages of students from broken and unbroken homes was not significant at the five per cent level. Therefore the null hypothesis, which states that there is no significant difference other than by chance, was retained. Some teachers have stated that the freedom from supervision which may occur in a broken home would permit more unnecessary absences. However this does not seem to be true to any appreciable extent in this group. The slight difference may also be due to additional home responsibilities. Since the difference was so small it may be attributed to the element of chance.

2. Metropolitan Achievement Test: In the grade equivalents based upon the Metropolitan Achievement Test, the difference between the matched pairs was so small that it was not significant at the five per cent level. The slight difference may be attributed to chance.

3. Mean subject grades. Again the difference in the matched pairs was too small to be significant at the five per cent level. In these last two variables some students from broken homes may have greater home responsibilities or less supervision in homework. These two factors might result in poorer scholastic scores.

4. Conduct grades. This was the only difference which was found to be significant at the five per cent level. In conduct the students from broken homes had received poorer grades than those from unbroken homes. Although the chi-square value was only slightly larger than the value listed

at the five per cent level, the null hypothesis was rejected and it could be stated that the difference was too great to be attributed to the element of chance. It was also noted that several comments regarding misconduct were inserted in the cumulative folders of students from broken homes. Perhaps this can be said to be caused by emotional insecurity or the need for recognition. The broken home or unpleasant condition prior to the "break" may have left a scar upon the emotional stability of some of these children. These students might need more guidance or understanding on the part of administrators and teachers. It appears that further study is needed here.

5. Student Education Questionnaire. The difference in the scores on the Student Education Questionnaire was too slight to be significant at the five per cent level. Therefore the null hypothesis was retained and it could be said that the difference might be attributed to chance. However it should be noted that this was the only variable in which the students from broken homes scored higher than those from unbroken homes. This may possibly be the result of a desire for higher education than that received by the parents. In a few cases the student might conclude that in the parents' situation a more satisfying situation could have been reached by additional education. In a few other cases the parents might come to this conclusion and endeavor to instill in the child a desire for a higher level of education.

In this study, the difference between the matched pairs from broken and unbroken homes in regard to attendance, scores on Metropolitan Achievement Test, subject grades, and opinions about education were so small that they were not significant. There was a significant difference noted at the five per cent level in regard to conduct grades. However the interpretation is open to question since these grades are probably more subjective than the other measurements used.

II. CONCLUSION

When educators or others state that school performance of students from broken homes is inferior to that of students from unbroken homes, they may be making unwarranted assumptions. This study tends to substantiate the assumption that in general there is no significant difference in the school performance of the two groups of students under study except in conduct grades.

In the review of literature it was noted that several writers had stated that there is a difference in the school behavior problems of students from broken homes as compared with students from unbroken homes. The statistics in this study also lend support to these reports. Additional research is necessary before the cause of the relationship can be established.

Limitations of the Study. The investigator recognizes the following limitations of this study:

The statistics available made it possible to pair only twenty-five students from broken homes with those from unbroken homes in all the variables under investigation. Because of the size of the sample, conclusions should be confined entirely to the specific group studied. It cannot be said to be representative of all eighth grade students or all broken home situations. The results, however, do indicate trends for further study.

Only in the case of conduct grades was there found to be a significant difference in the scores. It should be noted that conduct grades are probably more subjective than the other measurements used.

Recommendations for Further Research. The results of this study indicated that further research was needed to provide additional information on the effect of broken homes upon the performance of the student in school.

Specific suggestions for further study are as follows:

1. data comparing the school performance of the same students before and after the "break" in the home would determine more precisely the effects of the broken home upon the school performance of each student;
2. an investigation of the degree of the "intactness" of the home might compare the broken homes with homes which

are intact psychologically and emotionally as well as physically;

3. a larger sample drawn from several schools or over a longer period of time would provide more data and a basis for more general conclusions if the results remained consistent throughout the study.

BIBLIOGRAPHY

A. BOOKS

- Allen, Charles. Psychology of Adolescence. New York: Holt and Company, Inc., 1919.
- Allen, Charles. Children of Divorce. Garden City, New York: Doubleday and Company, Inc., 1933.
- Allen, Charles. Emotion and Error. New York: Holt, Rinehart and Company, Inc., 1927.
- Allen, Charles. Statistical Methods in Experimental Psychology. New York: The Macmillan Company, 1933.
- Allen, Charles. Child Psychology. Boston: D. C. Heath and Company, 1933.

BIBLIOGRAPHY

- Harriet, Maxwell S. (ed.). Psychology of Family Life. New York: Harper and Brothers, 1934.
- Allen, Charles. Broken Home. Public Affairs Pamphlet Number 118. Public Affairs Committee, Inc., 1947.
- Allen, Charles. Character and Personality of Children of the Broken Home. Teachers College, Columbia University Contributions to Education, Number 101. New York: Bureau of Publications, Teachers College, Columbia University, 1917.

B. PERIODICALS

- "Broken Home Cycle." Advance News Letter, Child, August, 1941.
- Campbell, Marian. "The Effect of the Broken Home Upon the Child in School," Journal of International Psychology, 3:221-261, January, 1932.
- Allen, Charles. "Children of Divorce," Parents' Magazine, 15:40-47, August, 1900.

BIBLIOGRAPHY

A. BOOKS

- Cole, Luella. Psychology of Adolescence. New York: Rinehart and Company, Inc., 1959.
- Despert, J. Louise. Children of Divorce. Garden City, New York: Doubleday and Company, Inc., 1953.
- Diamond, Solomon. Information and Error. New York: Basic Books, Inc., 1959.
- Lacey, Oliver. Statistical Methods in Experimentation. New York: The MacMillan Company, 1953.
- Peck, Leigh. Child Psychology. Boston: D. C. Heath and Company, 1953.
- Stewart, Maxwell S. (ed.). Problems of Family Life. New York: Harper and Brothers, 1956.
- Thorman, George. Broken Homes. Public Affairs Pamphlet Number 135. Public Affairs Committee, Inc., 1947.
- Wallenstein, Nehemiah. Character and Personality of Children from Broken Homes. Teachers College, Columbia University Contributions to Education, Number 721. New York: Bureau of Publications, Teachers College, Columbia University, 1937.

B. PERIODICALS

- "Broken Homes Cycle," Science News Letter, 80:116, August, 1961.
- Campbell, Marian. "The Effect of the Broken Home Upon the Child in School," Journal of Educational Sociology, 5:274-281, January, 1932.
- Cohen, Dorothy. "Children of Divorce," Parents' Magazine, 35:46-47, August, 1960.

- Harmon, Louise. "When Homes Are Broken," Journal of Home Economics, 50:332-335, 1959.
- Hieronimus, A. N. "A Study of Social Class Motivation; Relationships Between Anxiety for Education and Certain Socio-Economic and Intellectual Variables," Journal of Educational Psychology, 42:193-205, 1951.
- Mead, Margaret. "Broken Homes," Nation, 128:253-255, February 27, 1929.
- Nye, F. Ivan. "Child Adjustment in Broken and in Unhappy Unbroken Homes," Marriage and Family Living, 19:356-361, 1957.
- Pierce, Lora Ella and Louise Langford. "Do Broken Homes Affect Personality Adjustment?" Journal of Home Economics, 50:44-46, January, 1958.
- Torrance, Paul. "The Influence of the Broken Home in Adolescent Adjustment," Journal of Educational Sociology, 18:359-364, February, 1945.

APPENDIX A

QUESTIONNAIRE

Name _____ Date _____

Address of birth _____

Address of present residence _____

Number of younger brothers _____

Number of younger sisters _____

What does your father do? _____

What does your mother do? _____

APPENDIX

Do you live with _____

_____ your mother

_____ your father

_____ both parents

_____ neither parent

APPENDIX A

QUESTIONNAIRE

Name _____ Boy _____ Girl _____

Date of Birth: Date _____ Month _____ Year _____

Number of older brothers _____

Number of older sisters _____

Number of younger brothers _____

Number of younger sisters _____

Where does your father work? _____

Where does your mother work? _____

Do you live with (check one)

_____ your mother

_____ your father

_____ both parents

_____ neither parent

APPENDIX B

TABLES

TABLE VII

ATTENDANCE PERCENTAGES OF PAIRED STUDENTS
FROM UNBROKEN AND BROKEN HOMES

Code No.	Per Cent	Code No.	Per Cent	D	D ²
U 1	87.0	B 1	90.5	- 3.5	12.25
U 2	98.5	B 2	96.0	- 2.5	6.25
U 3	90.0	B 3	97.0	- 7.0	49.00
U 4	97.5	B 4	95.5	2.0	4.00
U 5	96.5	B 5	96.5	0.0	0.00
U 6	95.0	B 6	90.5	4.5	20.25
U 7	93.5	B 7	89.5	4.0	16.00
U 8	92.0	B 8	93.5	- 1.5	2.25
U 9	99.0	B 9	94.0	5.0	25.00
U10	94.5	B10	98.5	- 4.0	16.00
U11	85.0	B11	96.5	-11.5	132.25
U12	100.0	B12	87.5	12.5	156.25
U13	94.5	B13	91.5	3.0	9.00
U14	93.5	B14	94.5	- 1.0	1.00
U15	97.5	B15	98.5	- 1.0	1.00
U16	98.5	B16	99.0	- 0.5	0.25
U17	97.0	B17	95.0	2.0	4.00
U18	99.0	B18	91.5	7.5	56.25
U19	96.0	B19	90.5	5.5	30.25
U20	84.5	B20	89.0	- 4.5	20.25
U21	99.5	B21	97.5	2.0	4.00
U22	99.5	B22	92.5	7.0	49.00
U23	98.5	B23	86.0	12.5	156.25
U24	93.0	B24	98.5	- 5.5	30.25
U25	90.5	B25	88.5	2.0	4.00
				<u>32.0</u>	<u>805.00</u>

$$t^2 = 1.28$$

$$t = 1.13$$

Not significant.

TABLE VIII

GRADE EQUIVALENTS ON THE METROPOLITAN ACHIEVEMENT TEST
OF PAIRED STUDENTS FROM UNBROKEN AND BROKEN HOMES

Code No.	Grade Equiv.	Code No.	Grade Equiv.	D	D ²
U 1	6.0	B 1	6.4	- .4	.16
U 2	5.9	B 2	6.8	- .9	.81
U 3	8.3	B 3	5.2	3.1	9.61
U 4	8.2	B 4	9.3	- 1.1	1.21
U 5	8.7	B 5	7.5	1.2	1.44
U 6	9.0	B 6	9.7	- .7	.49
U 7	9.1	B 7	7.3	1.8	3.24
U 8	5.4	B 8	5.6	- .2	.04
U 9	6.8	B 9	6.8	0.	0.
U10	9.6	B10	8.6	1.0	1.0
U11	6.6	B11	7.4	- .8	.64
U12	9.1	B12	8.0	1.1	1.21
U13	9.5	B13	7.1	2.4	5.76
U14	5.6	B14	5.8	- .2	.04
U15	6.7	B15	6.8	- .1	.01
U16	6.5	B16	6.0	.5	.25
U17	10.1	B17	8.6	1.5	2.25
U18	5.3	B18	6.3	- 1.0	1.0
U19	5.2	B19	6.3	- 1.1	1.21
U20	6.9	B20	6.4	.5	.25
U21	9.1	B21	5.5	3.6	12.96
U22	9.5	B22	8.1	1.4	1.96
U23	5.5	B23	4.8	.7	.49
U24	5.0	B24	5.6	- .6	.36
U25	6.7	B25	7.1	- .4	.16
				<u>11.3</u>	<u>46.55</u>

$$t^2 = 2.95$$

$$t = 1.72$$

Not significant.

TABLE IX
 MEAN SUBJECT GRADES OF PAIRED STUDENTS FROM
 UNBROKEN AND BROKEN HOMES

Code No.	Grade	Code No.	Grade	D	D ²
U 1	3.7	B 1	3.5	.2	.04
U 2	2.9	B 2	4.9	-2.0	4.0
U 3	4.8	B 3	3.2	1.6	2.56
U 4	4.2	B 4	4.5	.3	.09
U 5	3.0	B 5	3.5	-.5	.25
U 6	4.8	B 6	4.7	.1	.01
U 7	4.7	B 7	3.9	.8	.64
U 8	3.0	B 8	2.4	.6	.36
U 9	3.8	B 9	3.8	.0	.0
U10	4.4	B10	3.7	.7	.49
U11	3.3	B11	3.8	-.5	.25
U12	4.6	B12	4.5	.1	.01
U13	4.0	B13	2.7	1.3	1.69
U14	2.5	B14	2.8	-.3	.09
U15	2.8	B15	4.3	-1.5	2.25
U16	3.4	B16	3.8	-.4	.16
U17	4.2	B17	5.0	-.8	.64
U18	3.1	B18	3.2	-.1	.01
U19	3.8	B19	2.6	1.2	1.44
U20	3.3	B20	4.5	-1.2	1.44
U21	4.3	B21	3.3	1.0	1.0
U22	4.6	B22	5.0	-.4	.16
U23	3.1	B23	2.2	.9	.81
U24	2.6	B24	2.0	.6	.36
U25	3.4	B25	2.7	.7	.49
				2.4	19.24

$$t^2 = .29$$

$$t = .54$$

Not significant.

TABLE X
 CONDUCT GRADES OF PAIRED STUDENTS FROM
 UNBROKEN AND BROKEN HOMES

Code No.	Grade	Code No.	Grade
U 1	4	B 1	3
U 2	4	B 2	4
U 3	5	B 3	3
U 4	5	B 4	4
U 5	2	B 5	4
U 6	4	B 6	5
U 7	5	B 7	4
U 8	5	B 8	2
U 9	5	B 9	4
U10	4	B10	3
U11	5	B11	3
U12	5	B12	5
U13	5	B13	4
U14	5	B14	5
U15	5	B15	5
U16	5	B16	4
U17	5	B17	5
U18	4	B18	5
U19	4	B19	4
U20	3	B20	5
U21	5	B21	5
U22	5	B22	4
U23	4	B23	5
U24	5	B24	3
U25	5	B25	4

$$x^2 = 3.92$$

Significant at five per cent level.

TABLE XI

SCORES ON EDUCATIONAL QUESTIONNAIRE OF PAIRED STUDENTS
FROM UNBROKEN AND BROKEN HOMES

Code No.	Score	Code No.	Score	D	D ²
U 1	170	B 1	157	13	169
U 2	189	B 2	204	-15	225
U 3	168	B 3	178	-10	100
U 4	176	B 4	154	22	484
U 5	191	B 5	188	3	9
U 6	203	B 6	189	14	196
U 7	125	B 7	163	-38	1444
U 8	161	B 8	162	-1	1
U 9	174	B 9	172	2	4
U10	192	B10	181	11	121
U11	170	B11	196	-26	676
U12	190	B12	185	5	25
U13	190	B13	190	0	0
U14	190	B14	195	-5	25
U15	153	B15	176	-23	529
U16	201	B16	176	25	625
U17	199	B17	197	2	4
U18	193	B18	194	-1	1
U19	179	B19	156	23	529
U20	162	B20	203	-41	1681
U21	160	B21	171	-11	121
U22	189	B22	192	-3	9
U23	193	B23	164	29	841
U24	179	B24	190	-11	121
U25	191	B25	187	4	16
				<u>-32</u>	<u>7956</u>

$$t^2 = .12$$

$$t = .35$$

Not significant.