

A COMPARATIVE STUDY OF CHANGES  
IN SOCIAL ATTITUDES OF JUNIOR AND SENIOR  
HIGH SCHOOL STUDENTS OF EMPORIA, KANSAS

A THESIS  
SUBMITTED TO THE DEPARTMENT  
OF EDUCATION AND THE GRADUATE COUNCIL OF THE  
KANSAS STATE TEACHERS COLLEGE OF EMPORIA IN PARTIAL  
FULFILLMENT OF THE REQUIREMENTS FOR  
THE DEGREE OF MASTER  
OF SCIENCE

RECEIVED

BY

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JULY, 1939

Approved for the Major Department

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#### ACKNOWLEDGMENT

The writer wishes to express appreciation to Dr. H. E. Dewey and Dr. H. E. Schrammel, Director of the Bureau of Educational Measurements, for their kindly and scholarly assistance in the preparation of this study.

Acknowledgment is also given of the writer's indebtedness to Dr. E. J. Brown, Head of the Graduate Division, for his friendly interest and cooperation.

Thanks are due the Emporia Junior and Senior High School teachers who aided in giving the tests, and the pupils who gave their time as subjects.

M. J.

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## CHAPTER I

### INTRODUCTION

One of the most important problems confronting educators today is, to what extent are attitudes and beliefs modified by education.

"It has been stated that attitudes are almost universally recognized as potent determining factors of behavior."<sup>1</sup> If this be true, apparently one of the paramount objectives of all educators should be the inculcation of desirable attitudes in the students during their progress through the different educational levels.

It is a recognized fact that attitudes expressed verbally or symbolically may have no close relationship to behavior during times of stress or of extreme tension, yet attitudes may be measured with some efficiency by scales and tests which have been devised in recent years. It is true, however, that many still consider the attitude test a questionable tool.

Whittaker<sup>2</sup> in measuring attitudes of junior and senior high school pupils toward current political and economic problems has this to say:

Public school education has as one of its goals the inculcation of desirable civic attitudes. Educators have heretofore been satisfied to determine the effectiveness of teaching and the progress of pupils chiefly, if not entirely, on the basis of measured results

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<sup>1</sup> Ruby M. Lucas, "A Comparative Study of Attitudes of Two Groups of Negro College Students." (Unpublished Master's Thesis, Kansas State Teachers College, Emporia, Kansas, 1938) p. 2.

<sup>2</sup> M. S. Whittaker, "Measurements of Attitudes Toward Current Political and Economic Problems Among Junior and Senior High School Pupils." Journal of Experimental Education, 2:65-92, September, 1933.

in terms of the content material of the curriculum. This is not surprising in view of the fact that until recently no satisfactory measuring instruments have been available for determining growth in citizenship.

Psychologists have long been aware of the fact that behavior is controlled very largely by opinions and beliefs rather than by rational and conscious ideas. Doubtless this knowledge has been the incentive for the development of the many devices for the measurement of attitudes.

The present study is an attempt to determine what attendance at junior and at senior high school accomplishes in modifying or changing the average pupil's attitudes toward four specific fundamental social problems. The study will attempt to throw some light on the following questions which form the principal problems with which the study deals:

1. Does progression from one educational level to another in the secondary schools produce changes in social attitudes? If so, in what direction?
2. What is the relative difference in change of social attitudes between boys and girls of the secondary level?

This study does not attempt to measure the objective behavior of pupils, nor does it trace consecutively individual attitudinal changes. It hopes to measure only group attitudinal changes. The factors considered are education and sex. It is assumed that the responses of the older groups can be taken as indicative of the future attitudes of the younger subjects.

There are no claims of dogmatism or finality for this study. It is only an attack upon an important problem which became interesting to the investigator because of the many studies and investigations being



carried on by various individuals and groups in their attempts to measure attitudes and attitudinal changes.

### PREVIOUS STUDIES

Measurements of attitudes and changes of attitudes have been made by a number of investigators. Some of the studies which are of direct interest to this study are briefly discussed.

Cowan<sup>3</sup> made a study of junior high school pupils and adults in a small city, in order to discover the degree of seriousness with which both groups held certain forms of socially undesirable conduct. He found great similarity between opinions held by the adults and the junior high school pupils.

Buck<sup>4</sup> attempted to determine the change in attitudes and interests of a large group of college students over a period of ten years, from 1923 to 1933. He discovered a consistent liberalizing of opinion.

The Extent of Changes in Student Opinion and Attitude was a study by Wilson,<sup>5</sup> who was attempting to measure very specifically the extent

<sup>3</sup> P. E. Cowan, "A Study of Attitudes of Junior High School Students and of Adult Men and Women of a Small City, Toward Socially Undesirable Conduct," (Unpublished Master's Thesis, Kansas State Teachers College, Emporia, Kansas, 1935).

<sup>4</sup> Walter Buck, "Measurement of Changes in Attitudes and Interests of University Students Over a Ten Year Period," Journal of Abnormal and Social Psychology, 31:12-19, April, 1936.

<sup>5</sup> Logan Wilson, "The Extent of Change in Student Opinion and Attitudes," Sociology and Social Research, 20:552-559, July, 1936.

to which college students' opinions and beliefs are influenced by classroom contacts with controversial matter. His conclusion was that alarm is being somewhat unnecessarily raised in certain quarters over the possibility of indoctrination among college students.

Clem and Smith<sup>6</sup> made an interesting study of the relative attitudes of secondary pupils of the several educational levels, toward some specific moral situations. They found some indications and implications of indoctrination. There was also a trend toward a less austere point of view.

A study by Boldt and Stroud<sup>7</sup> was for the purpose of ascertaining whether college students became more liberal or more conservative in their attitudes as they progress through college, or whether they remain unaffected by college training. The results showed that the students became more liberal as a result of their training. Much of the change seemed to be due to the influence of college life rather than to difference in age and maturity. Those majoring in the social sciences manifested a more liberal tendency than those majoring in other fields.

An Attempt to Discover Change in Moral Attitudes of High School Pupils by Johnson and Davis<sup>8</sup> was a study to measure change by comparing

<sup>6</sup> Orlio M. Clem and Marcus Smith, "Grade Differences in Attitudinal Reactions of Six Year Secondary School Pupils," Journal of Educational Psychology, 25:297-309, April, 1934.

<sup>7</sup> W. J. Boldt and J. B. Stroud, "Changes in the Attitudes of College Students," Journal of Educational Psychology, 25:611-619, November, 1934.

<sup>8</sup> Joseph K. Johnson and Kingsley Davis, "An Attempt to Discover Change in Moral Attitudes of High School Pupils," International Journal of Ethics, 44:244-61, January, 1934.

their results with studies made previously by Slavens. The results indicated that there had been no very striking change of attitudes during the six years spent in high school covering the years from 1926 to 1932.

Farnsworth<sup>9</sup> measured changes in attitude toward war by giving attitude tests to groups of college students at intervals over a period of years from 1932 to 1936. The study showed that no important cultural change in war attitudes had occurred, but a slight shift was noted toward pacifism.

A study was made by Kirkendall<sup>10</sup> to discover changes, formation and persistence of attitudes of pacifism among college students. It was found that the women were slightly more pacifistic than the men and that the women were also more quickly and more easily influenced toward pacifism by hearing a speech opposing war.

Whittaker's<sup>11</sup> study was quite closely related to the present study as it was concerned with the measurement of attitudes of junior and senior high school pupils toward current political and economic problems. There was little evidence that the pupils became more open-minded from one grade level to another. Twelfth grade pupils were only slightly less likely to subscribe to extreme or radical statements than those of the seventh grade.

<sup>9</sup> Paul R. Farnsworth, "Changes in Attitudes Toward War During the College Years," Journal of Social Psychology, 8:274-9, May, 1937.

<sup>10</sup> Lester A. Kirkendall, "A Study of the Changes, Formation, and Persistence of Attitudes of Pacifism," Journal of Educational Sociology, 11:222-28, December, 1937.

<sup>11</sup> Whittaker, op. cit.

A study of Sowards<sup>12</sup> was an attempt to determine what effect attendance at college has on modifying students' attitudes toward war. The results of the study indicated that education did tend to modify the attitudes and beliefs of the subjects under consideration. The procedure used by Sowards has been very closely followed in this study in obtaining the results represented in the several tables on following pages.

Jones's<sup>13</sup> study included two college classes and covered a period of six years. It was a study of conservatism and liberalism, and covered the following fields: Race; War; Church; and Religion. He found there was in general a slight shift toward liberalism.

Smith<sup>14</sup> made an interesting study of spontaneous change of attitude toward war. He attempted to find the amount and direction of such changes when no specific attempt was made to influence or modify attitudes. His studies covered the years from 1932 to 1936. He discovered that the change of attitude of the subjects under consideration was from mildly pacifistic to strongly pacifistic.

#### SCOPE OF THE STUDY

This study is confined to the measurement of attitudinal changes

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<sup>12</sup> Genevieve Sharp Sowards, "A Study of the War Attitude of College Students," Journal of Abnormal and Social Psychology, 29:328-331, October, 1934.

<sup>13</sup> Vernon Jones, "Attitudes of College Students and the Change in Such Attitudes," Journal of Educational Psychology, 29:14-25, January, 1936.

<sup>14</sup> M. Smith, "Spontaneous Change of Attitude Toward War," School and Society, 40:50-52, July 5, 1937.

of secondary school pupils toward social problems.

The study is based upon data obtained by administering six hundred social attitude tests to seventh, ninth, and twelfth grade pupils. The subjects represent approximately thirty-five per cent of the entire student bodies of both the Junior and the Senior High Schools of Emporia, Kansas. The subjects also represent a fair sampling of the student bodies.

#### METHOD OF PROCEDURE

The method of procedure was to obtain six hundred expressed attitudes from seventh, ninth, and twelfth grade pupils, toward four specific social problems. The measuring instruments were four of the attitude scales edited by Thurstone.<sup>15</sup> More specifically they were: Attitude Toward the Constitution of the United States, Scale No. 13, Form A, by Rosander and Thurstone; Attitude Toward War, Scale No. 2, Form A, by Dreba; Patriotism, Scale No. 11, Form A, by Thiele and Thurstone; and Attitude Toward the Law, Scale No. 27, Form A, by Katz. All four scales were much alike in general structure, each constructed according to the technique employed by Thurstone and developed under his direction. The method of construction has been described in the literature and will not be given here in detail. However, the general plan of the scales used in this study consists of a number of statements, usually twenty or twenty-two, ranging from a very conservative view to a

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<sup>15</sup> L. L. Thurstone and E. J. Chave: The Measurements of Attitudes, University of Chicago Press, 1929.

very liberal or radical view. Each item of each scale has a scale value, these ranging from about 0.1 to 10.9 in each scale. The conservative statements have low scale values and the liberal statements have high values. The subject is directed to read all of the statements carefully and place a check mark in the space designated if he agrees with the statement, or a cross mark if he disagrees. The time required to mark the tests was from ten to twenty minutes although no time limit was stated in the tests.

The method of scoring each test is to find the median of scale values of the statements with which the subject agrees. No implication is made as to one opinion being more correct than another.

It is assumed in this study that the subject feels the way he says he does.

The attitude scales were administered in the spring of 1939.

#### THE SOURCES OF DATA

The data used in this study were obtained from original sources; namely, from six hundred attitude tests covering the field of four fundamental social problems.

The study was made in Emporia, Kansas, a medium-sized town of about 13,000 population. Emporia is located in the Eastern one-third of Kansas and is a typical trading center, covering a radius of about fifty miles, of an agricultural section devoted to grain production and cattle raising. There are twenty-eight churches in town, most of them well attended and supported, and a public library with two branches.

Two colleges are located in the town, one a denominational college supported by the Presbyterian Church, the other a State Teachers College. A laboratory school and a junior and a senior high school are organized in connection with the State Teachers College.

A public school system provides education through twelve grades and a Catholic parochial school provides an elementary education for the children of that faith.

The chief industries of the town are: Cheese making; Milling; Baking; Meat Packing; and the production of fertilizer.

Among the population may be found many small scale business people, educators, students, and retired farmers. Thus the population presents a cross section of a typical mid-western agricultural area.

#### TYPES OF DATA COLLECTED

The following types of data were classified from the six hundred attitude tests:

1. Statistics concerning the relative changes in social attitudes of junior and senior high school subjects on three educational levels.
2. Statistics concerning the relative change of social attitudes between the sexes on three educational levels.

#### DEFINITION OF TERMS

Attitude is interpreted as a belief or feeling which reveals a behavior tendency. Symonds<sup>16</sup> has given several meanings of the term,

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<sup>16</sup> P. M. Symonds, The Nature of Conduct (New York: The MacMillan Company, 1928), pp. 216-239.

one of which is, that attitude is generalised conduct.

Subjects refers to pupils or students.

Measuring instruments refers to the attitude scales or tests.

Average is a measurement of central tendency.

Standard deviation is the spread of the scores around a central tendency. It is the most accurate measure of variability.

Standard error is the probable amount of variance of an obtained score from its corresponding true score.

Difference refers to the difference of the mean scores.

Critical ratio is a final indication of the degree of reliability of the differences between the average. A quotient of  $\sqrt{3}$  indicates a complete reliability. One less than three indicates a certain number of chances in 100 of a true difference and one over  $\sqrt{3}$  indicates so much more reliability.

Reliability means the degree to which the procedure can be guaranteed to give consistent results.

#### PRESENTATION OF MATERIAL.

The plan of study has been to classify and present the original data in statistical tables. The arithmetic mean or average was computed for comparative purposes. The Standard Deviation, Mean Difference, and Standard Error Difference have been employed in the tables in order to facilitate the comparisons.

A discussion or an analysis accompanies each table. From the study and comparisons a summary has been made and some conclusions have been drawn.



## CHAPTER II

### RELATIONSHIP OF EDUCATIONAL STATUS TO ATTITUDE TOWARD WAR; PATRIOTISM; LAW; AND THE CONSTITUTION

The tables found in this chapter and in the following were calculated from the six hundred Thurstone Attitude Scales. The mass of material summarized in the tables could not be well represented otherwise.

#### RELATIONSHIP OF EDUCATIONAL STATUS TO ATTITUDE TOWARD WAR

In attempting to measure change of attitude toward war, the average or mean scores of the seventh, ninth and twelfth grades were compared for the purpose of determining whether there was any relation between war attitudes of these groups and their educational status.

It is apparent from a study of Table I that the average scores of the three groups, of fifty subjects each, fall within the range, numerically represented by 6.0 to 6.9, which is designated by Thurstone as "mildly pacifistic."

A study of Table I also reveals that there is a slight trend toward greater pacifism from the seventh to the twelfth grade, although the trend is not consistent as the ninth grade drifts slightly toward a more militaristic attitude. However, this inconsistency is not great enough to be of statistical significance.

A study of the standard deviation of the three educational levels show an increase of homogeneity from the younger to the older group. The trend, however, is not consistent as the ninth grade group, with a

TABLE I

## AVERAGES AND STANDARD DEVIATION OF SCORES BY CLASSES

Class	No. Cases	Averages	S. D.
Seventh grade	50	6.55	.813
Ninth grade	50	6.26	.984
Twelfth grade	50	6.71	.615

Read table thus: There are 50 cases studied in the seventh grade, the average or mean of the scores is 6.55, the standard deviation of the scores, .813. Read the other items in the same manner.

standard deviation of .984, has least homogeneity.

Table II indicates that the differences of the three groups are not of great statistical significance. The standard errors of the differences of the three groups compared, are .179, .164, and .145, respectively. When the difference between the means or averages is divided by the standard error of the difference, the quotient is considered a reliability index. It is called a critical ratio. The ratio of the first two grades compared is +1.820; for the next two grades, -2.744; and for the last two, -1.103. A critical ratio of  $\pm 3$  or more is considered to be completely reliable. A ratio of -2.744 means that there are 99.7 chances in 100 that the true difference is greater than zero.

It may be inferred from the obtained results that education has had very slight influence in modifying the pupils' attitudes toward war during their attendance at junior and senior high school.

Since the results obtained in Tables I and II did not reveal any real difference between the three academic groups studied, a third comparison was made.

The available data was regrouped so as to compare the average scores of the seventh grade boys with the average scores of the ninth grade boys. The ninth and twelfth grade average scores and the seventh and twelfth grade average scores were compared in like manner. The same procedure was followed in comparing the average scores of the three groups of girls.

In this way education apart from sex could be determined.

TABLE II  
COMPARISON OF AVERAGES OF CLASSES

Class	Diff.	S. E. Diff.	Critical Ratio
Seventh grade Ninth grade	+ .29	.179	+1.620
Ninth grade Twelfth grade	- .45	.164	-2.744
Seventh grade Twelfth grade	- .16	.145	-1.103

Read table thus: The first group composed of seventh and ninth grade pupils have as a difference of average scores +.29. The standard error of the difference is .179 and the critical ratio is +1.620. Other items are read in like manner.

Note: A number preceded by a minus sign indicates the advantage is in favor of the second score in a comparison, while a plus sign indicates the advantage is in favor of the first score.

The results of such comparisons are summarized in Table III.

The average scores of the boys of the three academic levels indicate that more education tends to make them slightly more pacifically inclined. However, the ninth grade boys, with an average score of 6.20, show a tendency to be slightly more militaristic than the other groups. This shift toward militarization by the ninth grade boys, apparently, is of no statistical significance.

It will be observed that the average scores of the three groups of boys lie within the range represented numerically by 6.0 to 6.9, and designated as "mildly pacifistic" by the Thurstone Scale.

A study of the standard deviations reveals that the seventh grade boys, with .809 as a standard deviation, are more homogeneous than the other two groups of boys. The ninth grade boys with a standard deviation of .865 indicate that they have the least homogeneity of the three groups compared. A smaller number, representing a standard deviation, indicates greater homogeneity or less spread or scatter of the scores around a central tendency.

The differences of the average scores are not statistically reliable in two comparisons out of three. The difference of the average scores of the ninth and twelfth grade boys is statistically reliable as the critical ratio is  $-3.504$  which meets the conventional standard of reliability, hence, there are 100 chances in 100 of a true difference greater than zero.

Noting the comparisons of the average scores of the girls in Table III, it is apparent that all of the scores are within the range designated as "mildly pacifistic."

TABLE III

COMPARISON OF THE SCORES OF STUDENTS OF SAME  
SEX BUT OF DIFFERENT EDUCATIONAL LEVELS

Groups	No.	Aver.	S. D.	Diff.	S. E. Diff.	Critical Ratio
Seventh grade boys	22	6.55	.609	+.35	.228	+1.555
Ninth grade boys	21	6.20	.855			
Ninth grade boys	21	6.20	.855	-.48	.232	-3.504
Twelfth grade boys	20	6.68	.612			
Seventh grade boys	22	6.55	.609	-.18	.190	-.664
Twelfth grade boys	20	6.68	.612			
Seventh grade girls	28	6.55	.945			
Ninth grade girls	29	6.30	1.065	+.28	.266	+1.939
Ninth grade girls	29	6.30	1.065			
Twelfth grade girls	30	6.73	.618	-.43	.228	-1.866
Seventh grade girls	28	6.55	.945			
Twelfth grade girls	30	6.73	.618	-.18	.212	-.849

Read table thus: The first column contains the groups compared; the second represents the number of cases in each class; the third column contains the average scores; the fourth, standard deviations; the fifth, the difference between the average scores; the sixth, the standard error of the difference; the seventh, the critical ratio, a reliability index.

It will be noted that the average scores of the girls indicate a slight sweep toward greater pacifism with scores ranging from 6.80 to 6.73. However, this slight trend is not consistent as the ninth grade girls show a slight shift toward a more militaristic attitude, although the shift is not sufficient to be of statistical significance.

The standard deviation of .618 seemingly indicates greater homogeneity in the twelfth grade group, while the ninth grade girls with a standard deviation of 1.065 show the greatest variability of the three groups.

It is apparent that the differences are not statistically significant as none of the critical ratios approach very closely complete reliability.

Table III, apparently, indicates that education has very little influence in directing the attitudes of the boys and girls toward greater pacifism.

#### RELATIONSHIP OF EDUCATIONAL STATUS TO ATTITUDE TOWARD PATRIOTISM

The three classes of subjects were given the Thurstone Scales on attitude toward patriotism in an attempt to determine any change or modification of attitudes toward that particular social attitude.

Table IV shows that all average scores of the three classes, composed of fifty pupils each, fall within the category interpreted as "somewhat patriotic." The scale range of this category is from 6.0 to 7.4. It may also be noted that there is a slight consistent trend toward a stronger patriotic feeling from the seventh to the twelfth grade.

A study of the standard deviations reveals that there is a consistent trend of homogeneity from the seventh to the twelfth grade.

TABLE IV

## AVERAGES AND STANDARD DEVIATIONS OF SCORES BY CLASSES

Class	No. Cases	Averages	S. D.
Seventh grade	50	7.32	.848
Ninth grade	50	7.42	.820
Twelfth grade	50	7.45	.835

Read table thus: There are 50 cases studied in the seventh grade, the average or mean score is 7.32, the standard deviation of the scores is .848. Read the other items likewise.



The seventh grade with a standard deviation score of .848 has the least homogeneity, while the score .635 indicates the greatest homogeneity is to be found in the twelfth grade.

Table V shows that the differences are not reliable as none of the critical ratios closely approach  $\frac{1}{2}$ .

Apparently the pupils' attitudes toward patriotism were modified or altered to only a very slight degree from the seventh to the twelfth grade. Since no real differences were brought to light between the educational groups studied, the available data were regrouped so as to compare the average scores of the seventh and ninth grade boys; the average scores of the ninth and twelfth grade boys, and the average scores of the seventh and twelfth grade boys.

The same procedure was used in the comparisons of the girls' average scores, on the three educational levels.

The results of the comparisons are contained in Table VI (page 21).

It will be noted that all of the boys' scores fall within the range interpreted as "somewhat patriotic." There is a trend toward greater patriotism from the seventh to the twelfth grade but the trend is not consistent as the score of the ninth grade boys indicate that they are slightly less patriotic than the other groups. The shift, however, is too small to be of statistical significance.

The standard deviation of .601 indicates that the seventh grade boys are the most homogeneous of the three groups. The greatest variability is found in the ninth grade with a standard deviation of .884.

TABLE V

## COMPARISON OF AVERAGES OF CLASSES

Class	Diff.	S. E. Diff.	Critical Ratio
Seventh grade Ninth grade	-.10	.164	-.610
Ninth grade Twelfth grade	-.01	.148	-.069
Seventh grade Twelfth grade	-.11	.148	-.743

Read table thus: The first group composed of seventh grade and ninth grade pupils have as a difference of average scores  $-.10$ . The standard error of the difference is  $.164$  and the critical ratio is  $-.610$ . Other groups are read in like manner.

TABLE VI

COMPARISON OF THE SCORES OF STUDENTS OF SAME SEX  
BUT DIFFERENT EDUCATIONAL STATUS

Groups	No.	Aver.	S. D.	Diff.	S. E. Diff.	Critical Ratio
Seventh grade boys	27	7.40	.501			
Ninth grade boys	20	7.33	.584	+.07	.192	+.355
Ninth grade boys	28	7.33	.584			
Twelfth grade boys	24	7.44	.519	-.11	.197	-.558
Seventh grade boys	27	7.40	.501			
Twelfth grade boys	24	7.44	.519	-.04	.141	-.284
Seventh grade girls	25	7.22	.590			
Ninth grade girls	22	7.55	.710	-.33	.195	1.692
Ninth grade girls	22	7.55	.710			
Twelfth grade girls	26	7.42	.641	+.15	.197	+.660
Seventh grade girls	23	7.22	.590			
Twelfth grade girls	26	7.42	.641	-.20	.210	-.952

Read table thus: The first column contains the grades compared; the second, the number of cases; third, the averages; fourth, the standard deviations; fifth, differences between averages; sixth, the standard error of the difference; seventh, the critical ratio, a reliability index.

Table VI reveals the scores of all three of the female groups do not fall within the same category. The seventh and twelfth grade girls fall within the range interpreted as "somewhat patriotic," while the ninth grade girls are within the range interpreted as "very patriotic" with a score of 7.56.

The greatest homogeneity exists in the seventh grade group of girls indicated by a standard deviation of .590. The least homogeneity is among the ninth grade girls with a standard deviation of .710.

The differences set forth in Table VI apparently are not reliable as the critical ratios do not closely approach 13. Thus, education seemingly exerts very little influence in modifying the attitudes of the junior and senior high school students in the direction of greater patriotism.

#### RELATIONSHIP OF EDUCATIONAL STATUS TO ATTITUDE TOWARD LAW

The scale on attitude toward law was administered to the three classes of pupils.

In observing the average scores of the three groups, of fifty members each, contained in Table VII the reader will note that there is a trend toward more respect for law from the younger to the older group. However, the trend is not entirely consistent as the ninth grade indicates, to a slight degree, greater respect for law than the twelfth grade.

Apparently the shift is of no statistical importance as all of the scores lie within the range 6.0 to 7.9, interpreted by Thurstone as "moderate respect" for law.

TABLE VII

## AVERAGES AND STANDARD DEVIATIONS OF SCORES BY CLASSES

Class	No. Cases	Averages	S. D.
Seventh grade	50	6.98	.811
Ninth grade	50	7.27	.76
Twelfth grade	50	7.09	.761

Read table thus: There are 50 cases in the seventh grade, the average or mean of the scores is 6.98, the standard deviation is .811. Read other items in like manner.

A study of the standard deviations discloses that there is more complete agreement among the twelfth grade group, whose standard deviation score is .761. The trend toward homogeneity is constant as the seventh grade group with a standard deviation of .611 has the greatest variability, followed by the ninth grade with a score of .78.

In a study of Table VIII it is revealed that the differences are not reliable as the critical ratios do not closely approach  $\frac{1}{3}$ . Therefore, if the pupils' attitudes toward the law are modified by attendance at junior and senior high school, the modification is, apparently, not highly marked.

In order to find real differences, if any exist, the investigation was carried further. The data were so rearranged as to compare the average scores of the seventh and ninth grade boys; also, the average scores of the ninth and twelfth, and the seventh and twelfth grade boys.

The same procedure was used in obtaining the results of the three comparisons of the girls' average scores.

This regrouping of data determined the influence of education, apart from sex.

The data in Table IX (page 26) show that the average scores of the three groups of boys fall within the range of "moderate respect" for law. There is a trend from seventh to twelfth grade which indicates a greater respect for law by the older groups. The ninth grade shows a shift to a slightly greater respect for law than the other groups. The trend is so slight, however, it is apparently of no statistical significance.

TABLE VIII

## COMPARISON OF THE AVERAGES OF THE CLASSES

Class	Difference	S. E. Difference	Critical Ratio
Seventh grade Ninth grade	-.29	.158	-1.835
Ninth grade Twelfth grade	+.18	.155	+1.161
Seventh grade Twelfth grade	-.11	.158	-.696

Read table thus: The first group composed of seventh and ninth grade pupils have a difference of  $-.29$  in average scores. The standard error of the difference is  $.158$ . The critical ratio is  $-1.835$ . Other items read likewise.

TABLE IX

COMPARISON OF GROUP SCORES OF SAME SEX  
BUT DIFFERENT EDUCATIONAL STATUS

Groups	No.	Aver.	S. D.	Diff.	S. E. Diff.	Critical Ratio
Seventh grade boys	26	6.98	.518			
Ninth grade boys	20	7.23	.238	-.25	.084	-2.976
Ninth grade boys	20	7.23	.238			
Twelfth grade boys	25	7.12	.651	+.11	.176	+.625
Seventh grade boys	24	6.98	.518			
Twelfth grade boys	25	7.12	.651	-.14	.179	-.782
Seventh grade girls	24	6.98	.515			
Ninth grade girls	30	7.30	.246	-.32	.114	-2.807
Ninth grade girls	30	7.30	.246			
Twelfth grade girls	25	7.07	.674	+.23	.141	+1.631
Seventh grade girls	24	6.98	.515			
Twelfth grade girls	25	7.07	.674	-.09	.170	-.529

Read table thus: The first column includes the groups compared; the second, the number of subjects; third, the average scores; the fourth, the standard deviation; the fifth, the difference between averages; the sixth, the standard errors of the difference; the seventh, the critical ratio, an index of reliability.



The standard deviations indicate that the greatest homogeneity exists in the ninth grade group, with a score of .233. The greatest variability seems to be in the twelfth grade group as their standard deviation score is .831.

The differences are not statistically reliable in two out of three comparisons. The critical ratio 2.976 of the difference of the average scores of the seventh and ninth grade boys approaches complete reliability with 99.8 chances out of 100 of a true difference.

The scores of the girls fall within the category interpreted as "moderate respect" for law, however, the ninth grade shows a slightly greater respect for law than the other two groups.

The standard deviation of .246 indicates greatest homogeneity in the ninth grade group. The twelfth grade girls show the least degree of homogeneity with a standard deviation of .674.

The differences of the scores are not statistically reliable in two comparisons out of three. The critical ratio 2.807 of the difference of the seventh and ninth grade average scores closely approaches complete reliability, with 99.74 chances out of 100 of a true difference.

Table IX, apparently, indicates that education has no marked effect on the boys' and girls' attitudes toward greater respect for law.

## RELATIONSHIP OF EDUCATIONAL STATUS TO ATTITUDE

## TOWARD THE CONSTITUTION

The last scale of attitudes administered to the three classes of junior and senior high school subjects was the Thurstone Scale on attitude toward the Constitution.

The averages of the scores and standard deviations of the three groups of pupils were computed and arranged in Table X on the following page. This table reveals that the average scores of the three educational levels of fifty subjects each, fall into the category designated as "neutral position." Scores 4.0 to 6.9 represents the category on the attitude scale.

The twelfth grade indicates by a score of .596 that they are less loyal to the constitution than the other groups. The ninth grade with a score of 6.21 are the most loyal. However, the variations are so slight, it is probable that they are not significant statistically.

In noting the standard deviations it is apparent that the twelfth grade with a score of .885 is the most homogeneous of the three groups. The score 1.260 indicates that the ninth grade has the least homogeneity.

The results summarized in Table XI (page 50) indicate that the differences set forth therein are not reliable as none approach 23 as a critical ratio.

Therefore, education has only a very slight influence in directing the attitudes of the pupils under consideration, toward greater loyalty to the Constitution.

TABLE X

## AVERAGES AND STANDARD DEVIATIONS OF SCORES BY CLASSES

Class	No. Cases	Averages	S. D.
Seventh grade	50	6.09	.996
Ninth grade	50	6.21	1.260
Twelfth grade	50	5.96	.885

Read table thus: There are 50 cases studied in the seventh grade, the average or mean of the scores is 6.09, the standard deviation of the average score is .996. Read other items in the same way.

TABLE XI

## COMPARISON OF AVERAGES OF CLASSES

Class	Difference	S. E. Diff.	Critical Ratio
Seventh grade Ninth grade	-.12	.228	-.526
Ninth grade Twelfth grade	+.25	.219	+1.142
Seventh grade Twelfth grade	+.13	.190	+.684

Read table thus: The first group composed of seventh and ninth grade pupils have a difference of  $-.12$  of average scores. The standard error of the difference is  $.228$ , and the critical ratio is  $-.526$ . Other items are read in like manner.

Since no real differences were revealed the data were regrouped so as to compare the boys' average scores, on the three grade levels, with each other. The same plan was used in comparing the girls' average scores as was used in comparing the boys' scores.

In this way the influence of education apart from sex could be determined.

The results of such comparisons are summarized in Table XII. The average scores of the boys of the three educational levels indicate that more education tends to produce in them a greater loyalty to the Constitution. It is to be noted also that this trend is consistent from the seventh to the twelfth grade. However, all average scores of the boys' groups fall in the range designated as "neutral position." Therefore, the shifts are not of any great statistical significance.

The standard deviation of .999 for the twelfth grade average score indicates greater homogeneity among that group of boys while the ninth grade boys, with a standard deviation of 1.398, have the greatest variability of the three groups.

It is apparent that none of the differences set forth are reliable as none of the critical ratios approach closely  $\frac{1}{2}$ .

Noting the average scores of the girls' it is apparent that they lie within the range of "neutral position." The seventh and ninth grades indicate a stronger loyalty to the Constitution than the twelfth grade. The shift of the twelfth grade, however, is too small to be of statistical importance.

Table XII reveals greater homogeneity among the twelfth grade girls with a standard deviation of .75 while the ninth grade with a

TABLE XII

COMPARISON OF SCORES OF STUDENTS OF SAME SEX  
BUT DIFFERENT EDUCATIONAL STATUS

Group	No.	Aver.	S. D.	Diff.	S. E. Diff.	Critical Ratio
Seventh grade boys	30	6.08	1.098	-.13	.326	-.675
Ninth grade boys	18	6.21	1.398			
Ninth grade boys	18	6.21	1.398	-.06	.251	-.239
Twelfth grade boys	19	6.27	.999			
Seventh grade boys	30	6.08	1.098	-.19	.303	-.627
Twelfth grade boys	19	6.27	.999			
Seventh grade girls	20	6.11	.822			
Ninth grade girls	32	6.23	1.176	+.12	.277	-.435
Ninth grade girls	32	6.23	1.176			
Twelfth grade girls	31	5.78	.75	+.45	.247	+1.322
Seventh grade girls	20	6.11	.822			
Twelfth grade girls	31	5.78	.75	+.33	.228	+1.447

Read table thus: The first column contains the grades compared; the second, the number of subjects; third, the average scores; fourth, standard deviation; fifth, the difference between averages, sixth, the standard error of the differences; seventh, the critical ratio.

score of 1.176 seemingly are the most variable.

The differences, however, are not statistically significant as none of the critical ratios closely approaches complete reliability.

From the study of Table XII it appears that the pupils' experiences in junior and senior high school have had only very slight influence in directing their attitudes toward greater loyalty to the Constitution.

## CHAPTER III

### SEX DIFFERENCES IN ATTITUDE TOWARD WAR, PATRIOTISM, LAW, AND THE CONSTITUTION

The second phase of the study consisted of several comparisons of the scores of boys and girls of the same educational status, and also as sex groups. The intent being to obtain information relative to sex differences toward the four social problems; namely, War, Patriotism, Law, and the Constitution. This study was based on the expressed attitudes of 280 males and 320 females toward these problems.

#### SEX DIFFERENCES IN ATTITUDES TOWARD WAR

By a careful examination of Table XIII it will be observed that the sexes are not equal, the total number of boys being 63, with a total for the girls of 87.

It will also be noted that the seventh grade scores of the boys and girls are equal. This gives a critical ratio of zero which indicates reliability to the degree of 50 chances in 100 of a true difference.

The ninth and twelfth grade girls' scores are slightly higher than those of the boys of the same grades, indicating that the girls are somewhat more pacifistically inclined than the boys. However, all of the average scores of both boys and girls are within the range interpreted as "mildly pacifistic." Apparently the differences are too small to be of statistical significance.



TABLE XIII

COMPARISON OF THE SCORES OF STUDENTS  
OF SAME EDUCATIONAL STATUS  
BUT OF DIFFERENT SEX

Group	No.	Aver.	S. D.	Diff.	S. E. Diff.	Critical Ratio
Seventh grade boys	22	6.55	.609			
Seventh grade girls	28	6.55	.945	0	.221	0
Ninth grade boys	21	6.20	.855			
Ninth grade girls	29	6.30	1.065	-.10	.272	-.366
Twelfth grade boys	20	6.68	.612			
Twelfth grade girls	30	6.73	.618	-.05	.179	-.279

Read table thus: The seventh grade boys and girls form the first group; the number of subjects are 22 and 28 respectively; the average scores are 6.55 and 6.55; the standard deviations .609 and .945; the difference of averages is 0; the standard error of the difference is .221; the critical ratio is 0. Read in same manner for the other two groups.

It is interesting to note that the ninth grade boys are the most militaristic of the male groups with a score of 8.20, and also that the ninth grade girls with a score of 8.50 are the most militaristic of the female groups. However, the shift toward militarism by the two groups is too small to be of statistical significance.

The twelfth grade boys are, apparently, the most pacifistic of the male groups, while the twelfth grade girls are the most pacifistically inclined of the female groups. However, the girls' score is higher than that of the boys indicating they are slightly more pacifistic.

The standard deviations, seemingly, indicate that the boys of the seventh and ninth grades with scores of .609 and .855, respectively, are in more complete agreement than the girls of the same grades with scores of .945 and 1.065, respectively. The twelfth grade boys are more nearly in complete agreement than the girls of the twelfth grade.

Considering the classes of boys as forming one group and the classes of girls as another, it will be noted that the girls are slightly more variable than the boys.

Apparently none of the differences are statistically significant.

The results might be interpreted as indicating that education is influential in modifying the attitudes of the boys and girls, in the direction of pacifism, to only a very slight degree.

#### SEX DIFFERENCES IN ATTITUDE TOWARD PATRIOTISM

Noting the contents of Table XIV it will be evident that the sexes are nearly equal, with a total of 79 boys and a total of 71 girls.

TABLE XIV

COMPARISON OF THE SCORES OF STUDENTS OF SAME  
EDUCATIONAL STATUS BUT OF DIFFERENT SEX

Grade	No.	Aver.	S. D.	Diff.	S. E. Diff.	Critical Ratio
Seventh grade boys	27	7.40	.501			
Seventh grade girls	25	7.22	.590	+ .18	.155	+1.161
Ninth grade boys	26	7.33	.564			
Ninth grade girls	22	7.55	.710	- .22	.326	-.975
Twelfth grade boys	24	7.44	.519			
Twelfth grade girls	26	7.42	.641	+ .02	.164	+.122

Read table thus: The seventh grade boys and girls form the first group; the number of subjects are 27 and 25, respectively; the average scores are 7.40 and 7.22; the standard deviations are .501 and .590; the difference of averages is +.18; the standard error of the difference is .155; the critical ratio, +1.161. Read in same manner for the other two groups.

The scores of all three groups, with one exception fall within the category of "somewhat patriotic." The exception is the average score, 7.55, of the ninth grade girls which is interpreted as "very patriotic." It will be observed that the boys of the other two grades, namely, the seventh and twelfth, are more patriotically inclined than the girls of the same grades. However, the differences are not sufficiently large to be statistically significant.

The scores indicate that the seventh grade girls and the ninth grade boys are slightly less patriotic than the boys and girls of the other groups.

The standard deviations indicate, apparently, that the boys of the seventh and twelfth grades with scores of .501 and .519, respectively, are more in complete agreement than the girls of the same grades. The ninth grade boys and girls have less homogeneity than either of the other groups. The score .884 indicates that the ninth grade boys are the least homogeneous of any of the groups.

Considering all of the boys as forming one group and all of the girls as forming another it is apparent that the boys are slightly less variable than the girls.

The critical ratios indicate that none of the differences approaches reliability very closely.

Thus, it would seem that there is a slight trend, though not entirely consistent, toward a more patriotic feeling by both boys and girls from the seventh to the twelfth grade.

## SEX DIFFERENCES IN ATTITUDES TOWARD LAW

In examining Table XV it will be evident that the sexes are nearly equal. The total for the boys being 71 and the total for the girls 79. It is also evident that the scores of the seventh grade boys and girls are equal, both scores being 6.98. This gives a critical ratio of zero which indicates a reliability of 50 chances in 100 of a true difference.

Apparently, the ninth grade boys and girls are inclined to have slightly greater respect for law than the other groups. The ninth grade girls having the highest score of all. From a study of Table XV it appears that the twelfth grade boys are more inclined to have somewhat greater respect for the law than the girls of the twelfth grade. However, the average scores of all the groups lie within the category designated as "moderate respect" for law.

It is interesting to note that both the seventh grade boys and the seventh grade girls have slightly less respect for law than the other groups have.

The twelfth grade boys and girls indicate that they have slightly less respect for law than the ninth grade pupils of both sexes. However, the difference is too small for statistical significance.

The ninth grade boys with a standard deviation of .238 are more homogeneous than any of the other groups, but only slightly more so than the ninth grade girls, with a standard deviation of .246.

The twelfth grade boys with a standard deviation of .631 and the girls of the same grade with .674 as their standard deviation, are the least homogeneous of all of the groups.

TABLE XV

COMPARISON OF THE SCORES OF STUDENTS OF SAME EDUCATIONAL STATUS BUT DIFFERENT SEX

Group	No.	Aver.	S. D.	Diff.	S. E. Diff.	Critical Ratio
Seventh grade boys	26	6.98	.518			
Seventh grade girls	24	6.98	.515	0	.122	0
Ninth grade boys	20	7.25	.239			
Ninth grade girls	30	7.30	.246	-.07	.071	-.986
Twelfth grade boys	25	7.12	.831			
Twelfth grade girls	25	7.07	.654	+.05	.214	+.234

Read table thus: The seventh grade boys and girls form the first group; the number of subjects are 26 and 24, respectively; the averages are 6.98 and 6.98; the standard deviations are .518 and .515; the difference of the scores is 0; the standard error of the difference is .122; the critical ratio is 0. Read other items in like manner.

When the boys are included in one group and the girls in another for the purpose of determining the standard deviation of the sexes, it seems evident that the boys are less variable than the girls.

In observing the critical ratios it is apparent that the differences are not statistically significant.

If education is influential in developing more respect for law in the boys and girls under consideration, the influence is not at all marked.

#### SEX DIFFERENCES IN ATTITUDE TOWARD THE CONSTITUTION

Table XVI reveals that the sexes are not equal. The total number of boys is 87, while the total number of girls is 83.

The scores of the boys and girls are almost equal and all fall within the range designated by Thurstone as "neutral position."

There is a slight trend from the seventh to the twelfth grade, by both boys and girls, toward greater loyalty to the Constitution, except in the case of the twelfth grade girls, whose score 5.76 indicates slightly less loyalty than that of the other groups. However, the twelfth grade boys indicate by a score of 6.27 that they have slightly greater loyalty to the Constitution than any of the other groups.

The seventh and ninth grade girls with scores of 6.11 and 6.23, respectively, have slightly higher scores than the boys of those grades, indicating somewhat greater loyalty to the Constitution. The variances, however, in the scores are so slight that they appear to have no statistical significance.

TABLE XVI

COMPARISON OF THE SCORES OF STUDENTS OF SAME EDUCATIONAL  
STATUS BUT OF DIFFERENT SEX

Group	No.	Aver.	S. D.	Diff.	S. E. Diff.	Critical Ratio
Seventh grade boys	30	6.06	1.098			
Seventh grade girls	20	6.11	.822	-.05	.272	-.110
Ninth grade boys	18	6.21	1.398			
Ninth grade girls	32	6.23	1.176	-.02	.252	-.086
Twelfth grade boys	19	6.27	.999			
Twelfth grade girls	31	5.78	.75	-.49	.265	-1.849

Read table thus: The seventh grade boys and girls form the first group; the number of subjects are 30 and 20, respectively; the average scores are 6.06 and 6.11; the standard deviations are 1.098 and .822; the difference of averages is  $-.05$ ; the standard error of the difference is  $.252$ ; the critical ratio is  $-.110$ . Read in same manner for the other two groups.



The standard deviations show that the twelfth grade girls are the most nearly in complete accord, indicated by the score .75.

The ninth grade boys and girls with standard deviations expressed numerically as 1.598 and 1.176, respectively, have greater variability than either of the other groups compared.

When the sexes are rearranged so as to form a male group and a female group, it is evident that the boys are more variable than the girls.

The differences are not entirely reliable as only one difference, that of the twelfth grade boys and girls, in any way approaches reliability.

The results, apparently, indicate that education has very little influence in directing the seventh, ninth, and twelfth grade boys and girls toward greater loyalty to the Constitution.

## CHAPTER IV

### SUMMARY AND CONCLUSIONS

#### SUMMARY

The findings from administering 600 attitudinal scales to seventh, ninth, and twelfth grade pupils are as follows:

1. While there is, in general, a consistent trend from seventh to twelfth grades in the direction of a more liberal attitude toward all four problems, namely, war, patriotism, law, and the Constitution, the differences between the average scores of the three groups are too small, except in one comparison, to be statistically reliable.

2. The average scores of the three academic levels on patriotism, are within a range designated as a mild or neutral position with the exception of the ninth grade girls, whose score is within the range interpreted as "very patriotic."

3. A study of the standard deviations of the scores indicated that homogeneity is generally greatest among the seventh grade boys. The ninth grade boys' scores also indicated a rather strong tendency toward homogeneity. However, homogeneity exists to a fairly high degree in the majority of the groups studied.

4. In comparisons of the standard deviation scores of the boys and girls on the same academic levels, it is found in three comparisons out of four, that the girls are more variable than the boys. The exception was an attitude toward the Constitution. In this comparison the boys are, apparently, more variable than the girls.

5. The girls are found to have greater respect for law, and are slightly more pacifistic and more patriotic than the boys. However, the boys indicate a slight shift toward greater loyalty to the Constitution.

6. A study of the male groups reveals that the ninth grade boys are the most militaristic, the least patriotic and have the greatest respect for law. The ninth grade girls compared with the other female groups are the most militaristic, have the greatest respect for law, and are the most loyal to the Constitution. The differences, apparently, are too small to be statistically reliable.

7. Reliable sex differences, on attitudes toward the four social problems, are not found, as the differences are too small to be of statistical significance.

### CONCLUSIONS

At this stage of attitudinal research and with such a small number of subjects under consideration, it would be unwise to attempt dogmatic interpretation of the data, as there are so many factors operating to modify and crystallize attitudes of pupils. Consequently, no attempt will be made to explain why the results of this study are as found.

However, since the majority of the subjects studied remain practically unaffected in their attitudes toward the four social problems, from the seventh to the twelfth grade, it might not be out of place to ask some questions as to why the results are what they are.

As has been shown in this study the pupils' attitude scores fall, in general, within a range interpreted as a mild or neutral position. This situation may give rise to some questions such as the following: Does the curriculum need to be enriched in social content? Should the teaching be more vitalized?

Since practically all of the groups indicated that they were fairly homogeneous, questions of this type may arise. Does the existence of homogeneity, to a fairly high degree among the pupils, indicate lack of emphasis on individual differences? Are teaching and thinking becoming too standardized and stratified? Are the schools developing neutral pupils? These questions and many others may be asked but no attempt will be made in this thesis to answer them.

The results of this study are interesting and perhaps challenging but not final. It may be that studies similar to this one will be made and the results compared in order to determine if education does produce real changes in attitudes, and if trends are definite and consistent.

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