1957

The evaluation of attitudes toward selected areas of school health education

BOSTON UNIVERSITY

SCHOOL OF EDUCATION

Dissertation

THE EVALUATION OF ATTITUDES TOWARD SELECTED AREAS OF SCHOOL HEALTH EDUCATION

Submitted by

Oscar A. Moore

(B. S., West Virginia State College, 1934)

(M. Ed., Springfield College, 1939)

In Partial Fulfillment of Requirements for

the Degree

Doctor of Education

1957

First Reader: Leslie W. Irwin

Professor of Education

Second Reader: Roy O. Billett

Professor of Education

Third Reader: James F. Baker

Associate Professor of Education

TABLE OF CONTENTS

LIST OF TABLES

LIST OF FIGURES

CHAPTER I

THE PROBLEM

Statement and Definitions

Statement of the problem. -- The primary purpose of this study is to determine the attitudes of twelfth grade students in Florida high schools toward selected areas of health and safety education. The study may be thought of as an assessment of attitudes which might provide the possibility for analyzing student behavior in health and safety matters. Related objectives are to determine the possible relationships of attitudes to sex, type of school, community, and previous experience in health education.

Justification of the problem. -- School health education as an area of the total school program has the responsibility of developing in the student favorable health and safety attitudes which might lead to present and future intelligent behavior. Since attitudes can be determined, an assessment of them by school administrators and teachers may reveal factors which have implications for improvement of curricula offerings. One writer [1/] has suggested that a regular systematic stock taking of

---

1/ Roy O. Billett, Administration and Supervision, 1932, National Survey of Secondary Eduation, Monograph Number 11, United States Office of Education, Washington, D. C., pp. 180-181.

pupils' reactions to their educative environment can make numerous suggestions for improving the environment.

Further justification of the problem can be found in the fact that a study of health attitudes may also give clues to the reasons for a poor record of health behavior in individual cases. [1] The reasons for this behavior may provide information which will enable qualified persons to give more effective counseling and guidance in health matters.

The development of desirable health attitudes among senior high school students of the present may encourage them as future taxpayers to support school and community health programs for the benefit of all.

Health is dependent upon many factors besides knowledge. Chief among these are attitudes, habits and practices. However, knowledge of health facts is of considerable importance in promoting the right attitudes and habits. [2]

Definition of terms.-- Attitudes. Beginning with the early research efforts of Thurstone and Remmers, [3] marked disagreement

---

[1] Ruth M. Strang and Dean F. Smiley, The Role of the Teacher in Health Education, The MacMillan Company, New York, 1942, pp. 319-41.

[2] Leo J. Brueckner and Ernest O. Melby, Diagnostic and Remedial Teaching, Houghton-Mifflin Company, Boston, 1931, pp. 583-88.

[3] Quinn McNemar, "Opinion-Attitudes Methodology", Psychological Bulletin (July 1946), 43: 5-26.

has arisen among investigators concerning an acceptable definition of attitudes. It is not the purpose of this study to engage in further discussion on the subject but merely to comment briefly on aspects which might be pertinent to the investigation.

From the misunderstandings generated, three significant factors are noticed on which there is agreement: (1) Attitudes can be measured, [1] (2) Attitudes have an effect on behavior, [2,3] (3) Attitudes may be thought of as a state of mental and emotional readiness. [4,5]

For the purpose of this study, an attitude is defined as a state of mind which might exercise direction on behavior. [6] Smith and Tyler report that, "an attitude is to have a belief about or an opinion about, or take position toward an issue". [7] These considerations call attention to

---

1/ L. L. Thurstone, "Attitudes Can Be Measured", American Journal of Sociology, (1928) 33:529-54.

2/ James F. Baker, The Construction and Evaluation of a Test of Critical Thinking in Emotional Situations, Unpublished Doctoral Dissertation, Boston University, 1950.

3/ Quinn McNemar, "Opinion-Attitude Methodology", Psychological Bulletin, (July 1946) 43:13-27.

4/ Gordon W. Allport, "Attitudes", A Handbook of Social Psychology, Worcester, Massachusetts, Clark University, 1935, p. 810.

5/ Allan Frome, "The Use of Certain Qualitative Methods of Attitude Research", S. P. SS.I. Bulletin. (1941) 13:429-59.

6/ Loc. cit., pp. 429-59.

7/ E. R. Smith and R. W. Tyler, Appraising and Recording Student Progress, Harper and Brothers, New York, 1943, p. 205.

the necessity for clarification of terms. The importance of attitudes suggests constant efforts for defining, clarifying and evaluating them if improved individual and group behavior is expected.

Health Education. -- According to a recent committee report,[1]

> "Health Education is the process of providing learning experiences for the purpose of influencing knowledge, attitudes and conduct, relating to individual and group health."

The definition has been the result of clarification of study as to the function, scope and purposes of health education in the total school program.

Health attitudes. -- Attitude studies have been conducted in business education, science, agriculture, guidance and in other selected areas. In each case, appropriate definitions were given. For purposes of this study, Byrd's definition of health attitude is listed as follows:[2]

> "A health attitude is a state of mental or emotional readiness for the practice of the activities that make it possible for the individual to secure and maintain the highest quality of life for which he possesses potentialities."

The assumptions which appear in this investigation may be listed in the following manner: (1) Health attitudes ot twelfth grade high school pupils can be measured, and (2) The Byrd Health Attitude Scale used in the study will be helpful in securing objective data. The assumptions

---

[1] Ruth E. Grout, Health Teaching in Schools, W. B. Saunders Company, Philadelphia, 1953, p. 2.

[2] Oliver E. Byrd, The Study and Measurement of Health Attitudes, Unpublished Doctoral Dissertation, Stanford University, 1940, p. 140.

appear to be basic and seem to be of vital importance in this investigation. Analysis, interpretation and presentation of data will be made in relation to assumptions listed.

CHAPTER II

REVIEW OF RESEARCH

Introduction. -- A review of the literature reveals that many investigators have gathered information pertaining to general educational problems and issues from high school students. Attention has also been given to specific health matters concerned with knowledge, habits, practices, misconceptions and attitudes. In the related area of Physical Education, attitude studies have also been conducted as investigators sought to improve the educational environment of students.

The following studies have been selected for review since they appear to be pertinent to this investigation:

In 1939, Mayer [1] reported that the attitudes of high school seniors toward twenty stereotyped opinions were consistent in 34.1 per cent of the reactions to the instrument of analysis which provided for two progressively specific check responses for each stereotyped attitude. His findings give indications of attitude consistency among high school seniors, a factor which provides justification for this investigation.

---

[1] Walter E. Mayer, A Study of Consistency of Attitudes of High School Seniors, Unpublished Doctoral Dissertation, University of Pittsburgh, 1939, p. 52.

Harnly[1] constructed an attitude scale following the Likert technique and applied it to 1,572 Nebraska high school seniors in 55 high schools. He pointed out that girls are more liberal than boys and that size of school, amount of equipment, adequacy of libraries and variety of courses, did not make much difference in attitudes of high school seniors. He felt that the instrument developed in the study offered educators a means of studying the attitudes of their pupils.

In a similar area, Brinegar[2] administered an attitude check list to students in 37 schools. His major findings show that sex of respondents appear to bear a causal relationship to the attitudes held toward the school areas in which personalities were involved. It was also reported that, in general, girls appeared to find school courses more useful in terms of everyday living than did boys. The results of the study suggest that the respondents were more critical toward some aspects of their schools than toward others. Also, the results indicated that curriculum changes were needed.

In an effort to find out how closely pupil opinions coincided with beliefs of the authorities on educational progress, Dunne[3] conducted

---

1/ Paul W. Harnly, The Attitude of High School Seniors Toward Certain Aspects of Education, Unpublished Doctoral Dissertation, Stanford University, 1938.

2/ Harold F. Brinegar, The Measurement of Attitudes of High School Students Toward Their Schools, Unpublished Doctoral Dissertation, Indiana University, 1952.

3/ James F. Dunne, Jr., Opinions of the Seniors at the Dedham High School on Educational Problems, Unpublished Master's Thesis, Boston University, 1953.

an investigation. Six broad areas of education were selected and members of the senior class were asked to express themselves in each of the following areas: (1) Program of studies; (2) The marking system; (3) Teaching methods; (4) Administrative provisions and discipline; (5) Guidance; (6) Extra-curricular activities. Differences in responses of students gave indications of definitely expressed opinions relative to areas of education under consideration.

Stuart [1] developed a scale for determining the attitudes of high school business education students toward certain aspects of office work. He reported that the attitudes of female business education respondents were more unfavorable than were those of male business education students. His investigation further showed that parental occupation, economic level and size of community have some effect on attitudes.

The investigation by Carr [2] included the application of an attitudinal rating scale to 335 high school freshman girls. It was found that the attitudes held by entering freshman girls do influence their success in physical education of the successful group as compared with those of the unsuccessful group.

1/ James L. Stuart, A Scale for Determining the Attitudes of High School Business Education Students Toward Certain Aspects of Office Work, Unpublished Doctoral Dissertation, Ohio State University, 1952.

2/ Martha G. Carr, Relation Between Physical Education and Selected Attitudes Expressed by High School Freshman Girls, Unpublished Doctoral Dissertation, Indiana University, 1944.

According to Byrd, [1] previous studies of health attitudes were isolated attempts to measure disconnected parts of the total health program. He felt that there was a need for a device to measure attitudes as a basis for effective instruction if the school was to influence health attitudes, knowledge and practices. As a result, he constructed an attitude scale [2] of 100 statements. The responses of the high school students investigated showed significant differences in individual and group scores. Variations were also reported by sexes, economic and social background.

During 1941-42, a survey was made of the health activities in operation in Massachusetts senior high schools in order that a more effective health program could be built. [3] Four health tests were designed especially for the study. They were administered to a large state-wide sample of high school students in representative communities. Results from the health attitude test indicated little difference between the scores from various types of communities. The average scores for boys in rural communities were consistently a point or so above those of any other

---

[1] Oliver E. Byrd, The Study and Measurement of Health Attitudes, Unpublished Doctoral Dissertation, Stanford University, 1940.

[2] Op. cit., p. 25.

[3] W. H. Southworth, J. Latimer and C. E. Turner, "A Study of the Health Practices, Knowledge, Attitudes and Interests of High School Pupils," Research Quarterly, 15:118-136, May, 1944.

type of community, but the difference was not statistically significant. The average score on the attitude test rose slightly from grade to grade being approximately 73.4 for grade ten, 74.2 for grade eleven and 75.2 for grade twelve.

The study of Ragland [1] was designed to determine what attitudes a selected group of high school seniors held toward the moral norms. It also indicated to what extent these attitudes were related to sex, rural-urban background, leadership in extra-curricular activities and to attendance or non-attendance in college. It was found that those seniors who will attend college have higher standards of living than those who will not attend college. Those graduating high school seniors who will enter college upon graduation conform to a greater degree to the moral norms regulating sex and marriage, but those who are not to attend college support to a greater degree the norms regulating divorce.

Anderson [2] reports a study of the attitudes and interests of high school girls in relation to certain physical activities. Eight hundred questionnaires were given to girls of grades ten, eleven and twelve in three public high schools of Des Moines, Iowa. Significant differences were

---

1/ George Rufus Ragland, Jr., "Attitudes of High School Seniors in a Number of Selected Communities Toward Marriage, Sex and Parenthood as Correlated with Standard of Living and Subsequent Enrollment or Non-enrollment in College, Unpublished Doctoral Dissertation, State University of Iowa, 1953.

2/ Theresa W. Anderson, "The Attitudes of High School Girls Toward Physical Activities," Research Quarterly, December, 1934, 5:49-61.

noticed which indicated that individual differences are very wide and extremely varied, rather than well defined in types or categories. The investigator felt that in dealing with individual girls, more than a cursory study should be made of their interests and needs.

A recent investigative effort to measure the attitudes of individuals concerning controversial issues was made by Scott. [1/] It was concerned with the attitudes of parents, teachers and administrators toward intensive competitive team games at the elementary level. The results of this study show that a majority of all groups were favorably disposed toward intensive competition with marked differences of opinions especially between administrators and teachers. Parents were the most favorable, and administrators were the least favorable. Men were more favorable than women toward intensive competition at the elementary school level as were also those with more experience in competitive sports. The significant differences and variations on this issue which can affect the physical, psychological and emotional welfare of developing children imply a great need for interpretation of educational objectives of athletics in the school program.

Health misconceptions and superstitions among school children have received the attention of investigators over the years. For purposes of this

---

1/ Pheobe Martha Scott, "Attitudes Toward Athletic Competition in Elementary Schools," Research Quarterly, 1953, 24:352-361.

investigation, the work of Salt[1] is considered. Taking his data from 30 Florida public schools, he expresses his findings in the following manner:

> "Unfounded beliefs relating to health were found to be quite prevalent among 7th, 10th, and 12th grade students in the public schools of Florida and it appeared that formal education had failed in a marked degree to eliminate certain health misconceptions from the beliefs of students in these grades."

In a similar study by Dzenowagis,[2] the problem of certain harmful health and safety misconceptions among fifth and sixth grade children was approached. Approximately 4100 school children from public schools of six Massachusetts communities participated in the study. It was found that many harmful health and safety misconceptions are very prevalent among fifth and sixth grade children and that variations do exist.

Paul Rhoton[3] reported that formal education had failed to remove health misconceptions from beliefs of the individuals studied. Since the sample under consideration was composed of undergraduate and

---

1/ Benton E. Salt, A Study of the Relative Prevalence of Certain Health Misconceptions and Superstitions as Subscribed to by Boys and Girls in Florida Public Schools, Unpublished Doctoral Dissertation, New York University, 1936, p. 65.

2/ Joseph G. Dzenowaigis, "Prevalence of Certain Harmful Health and Safety Misconceptions Among Fifth and Sixth Grade Children," Research Quarterly, Vol. 25, No. 2, May 1954.

3/ Paul Rhoton, Health Misconceptions of Prospective Teachers, Penn State Studies in Education, No. 5, The Nittany Printing and Publishing Company, Pennsylvania State College, 1932.

graduate students, their beliefs in health misconceptions are worthy of consideration. As prospective teachers, the need arises for scientific facts concerning health matters.

A summary of research reported in this chapter reveals the following points pertinent to this study:

1. There is a degree of attitude consistency among high school seniors.

2. The attitudes of high school seniors toward certain aspects of education indicated that girls were more liberal than boys and that size of school, amount of equipment, adequacy of libraries and variety of course, did not make much difference in attitudes of high school seniors.

3. The major findings in the measurement of attitudes of high school students, showed that sex of respondents appeared to bear a causal relationship to the attitudes held toward the school areas in which personalities were involved. In general, girls appeared to find school courses more helpful in terms of everyday living than did boys.

4. Anxious to ascertain how closely pupil opinions coincided with beliefs of the authorities in educational progress, an investigator showed that differences in responses of students gave indications of definitely expressed opinions relative to areas of education under consideration.

5. The attitudes of female high school business education students were more unfavorable than were those of male business education students. Parental occupation, economic level and size of community have some effect on attitudes.

6. An investigator in the area of Physical Education revealed that the attitudes held by entering freshman high school girls do influence their success in Physical Education.

7. The responses of high school students relative to health attitudes showed significant differences in individual and group scores. Variations were also reported by sexes, economic and social background.

8. In a similar study, results from the health attitude test indicated little difference between the scores from various types of communities. The average scores for boys in rural communities were consistently a point or so above those of another type of community.

9. The attitudes of a selected group of high school seniors indicated that those seniors who will attend college have higher standards of living than those who will not attend college.

10. In the study of the attitudes and interests of high school girls relative to certain physical activities, the following facts were observed: (a) significant differences were noticed; (b) individual differences are very wide and extremely varied, rather than well defined in types or categories.

11. Measurement of the attitudes of individuals concerning the controversial issue of intensive competitive team games at the elementary level revealed that a majority of all groups were favorably disposed toward intensive competition with marked differences of opinions especially between administrators and teachers.

12. The reporting of investigations concerned with health misconceptions and superstitions among school children and college students focused attention on the magnitude of the problem under consideration.

Widespread use of the technique, measurement of attitudes, to improve and solve problems in education as reported earlier in the chapter, may provide a justifiable reason for the present study under consideration.

CHAPTER III

PROCEDURES

1. Selection of Instruments

The Byrd Health Attitude Scale used in this investigation is designed to measure individual and group health attitudes of high school and college students. [1] It contains 100 questions which are checked by the student from a range of "strongly agree" to "strongly disagree". The questions are scored on a one to five point ascending scale.

Since the total score is the sum of each question, scores range from a minimum of 100 to a maximum of 500. Thus the scale, in terms of its scoring technique does have the capacity to distinguish variations in the health attitudes expressed by students.

The author of the scale [2] reports that the final 100 statements were selected from an original 400 items after experimental trials and two revisions. The scale in two parts, 200 items in each, was administered to 1,727 high school, junior college, college and university students. Items retained in the final scale were those in which students who scored

---

[1] Oliver E. Byrd, The Study and Measurement of Health Attitudes, Unpublished Doctoral Dissertation, Stanford University, 1940, p. 36.

[2] Op. cit., p. 242.

in the highest 10 per cent disagreed most with the students who scored in the lowest 10 per cent.

Commenting on reliability and validity, Byrd [1] says:

> "The reliability of the two scales was established by the split-half method with 100 papers for each test. When corrected by the Spearman-Brown formula, the reliabilities were established as .94 and .95 with probable errors of .01.
>
> The validity of the scales was determined by the manner in which the individual statements were selected."

To obtain supplemental material pertinent to the study, a Student Inquiry Form was devised. [2] Information relative to previous instruction and experience in selected areas of health and safety education was sought. Inquiries relative to the following items were made: (1) whether health and safety education was taught as a separate course or along with other subject areas; (2) whether boys and girls were taught in separate or in mixed classes; (3) whether they "liked" or "disliked" areas of health and safety education taught them. Opportunity was also provided for personal comments of students with respect to the health and safety topics listed on the form.

2. Analysis of Florida High School Organization and Course of Study

In the past, few high schools in Florida offered health and safety

---

[1] Oliver E. Byrd, The Study and Measurement of Health Attitudes, Unpublished Doctoral Dissertation, Stanford University, 1940, p. 243.

[2] See appendix B, p. 105.

instruction as a separate course. Recent curriculum changes, however, have resulted in the increased offering of special courses in health and safety education.

In the majority of senior high schools in Florida, the curriculum offerings are labeled General Education, Commercial Education and College preparatory. A major portion of the senior high schools operate on a general curriculum basis with opportunity for students to elect specialized courses as needed.

In an effort to determine the quantity and quality of material with health and safety implications, a critical analysis of the Florida high school course of study was made. It was felt that this procedure would be of valuable assistance in the completion of the study. Table 1, shows Florida State Department of Education Bulletins which were utilized for this purpose.

Table 1. Florida State Bulletins Analyzed for Health and Safety Education Content.

State Bulletins	Subject Area
(1)	(2)
Bulletin 4-B, A Guide to Teaching Effective Living, May 1950.....	Health and Safety Education
Bulletin 4-D, A Program of Health Services for Florida Schools, July, 1954.....	Health and Safety Education

(Concluded on next page)

Table 1. (Concluded)

State Bulletins	Subject Area
(1)	(2)
Bulletin 23, A Guide to the Teaching of Homemaking, (Revised 1953).....	Homemaking
Bulletin 12, A Brief Guide to Teaching Industrial Arts in the Secondary School, 1948.....	Industrial Arts
Bulletin 5, A Guide to Teaching Physical Education in Secondary Schools, 1948	Physical Education
Bulletin 8, A Brief Guide to the Teaching of Science in Secondary Schools, 1945	Science
Bulletin 28, A Guide for the Teaching of Social Studies in the Secondary Schools, (Revised, 1948).....	Social Studies
Bulletin 10-A, A Suggested Program of Study for the Florida Secondary Schools, 1952.....	General

Although these bulletins are not courses of study, they serve as guides and represent the best cooperative thinking of the State Department of Education, teachers and principals from the schools of Florida, county school authorities, the institutions of higher learning and many fine consultants from all parts of the nation. [1/]

Investigation showed that health and safety education knowledge and experiences were found in the following subject-matter areas of the Florida secondary school system: (1) Health, (2) Science, (3) Homemaking, (4) Physical Education, (5) Safety Education, (6) Industrial Arts,

1/ State Department of Education, Bulletin 10-A, Suggested Program of Study for the Florida Secondary Schools, September 1952.

and (7) Social Studies. Although an inspection of secondary school programs may reveal obvious favorable conditions relative to health education, it should be remembered that local school authorities are encouraged to plan programs and develop courses of studies consistent with the individual needs of each community of the state. It is recommended that the approach to these problems be in harmony with the ideals of American democracy, the physiological bases of learning, and the needs of children. [1]

The health content of the Florida secondary school course of study by subject area and degree of emphasis may be seen in detail in Table 2. Types of suggested activities and experiences for students reveal that these areas were covered either extensively or moderately.

Table 2. Health Content of Florida Secondary School Course of Study and Degree of Emphasis [2]

Subject Area	Types of Activities and Experiences	Degree of Emphasis	
		Moderately	Extensively
(1)	(2)	(3)	(4)
Health	Program of Nutrition Education		x
	Effective Living		
	a. Making the most of yourself		x
	b. Understanding Habit-Forming Drugs.....		x

(Concluded on next page)

[1] State Department of Education, Florida School Bulletin, Vol. 16, No. 4, June, 1954.

[2] Ibid.

Table 2. (Continued)

Subject Area	Types of Activities and Experiences	Degree of Emphasis	
		Moderately	Extensively
(1)	(2)	(3)	(4)
	c. Understanding Ourselves		x
	d. Growing into Maturity		x
	e. Outwitting Disease Hazards		x
	f. Controlling Environment to Protect Health		x
	g. Individual responsibility for Group Health		x
Homemaking	Child Care and Development		x
	Food and Nutrition		x
	Clothing and Textiles	x	
	Health	x	
	Home Safety and Care of the Sick	x	
	Personal, Social and Family Relations	x	
Industrial Arts	Developing the ability to use tools and materials		x
Physical Education	Program to emphasize the mental, physical and social values of health		x
Safety Education	Experiences in Safety Education through integration with other experiences and courses at home, school and in the community		x
Science	The study of biological science		x
	The study of general science with information regarding growth, food, nutrition and health, and other factors involving the human organism	x	

(Concluded on next page)

Table 2. (Concluded)

Subject Area	Types of Activities and Experiences	Degree of Emphasis	
		Moderately	Extensively
(1)	(2)	(3)	(4)
Social Studies	Development of pupil understanding of his opportunities, responsibilities, and obligations as a member of his home, his community, and of the larger units of democratic living.....		x

The result of this course of study analysis, provided the opportunity for consideration of the following assumptions: (1) the possibility that the students in the sample under investigation in this study have had some experience and acquaintance with health and safety education either through direct health instruction or through integrated or correlated techniques; (2) that this experience should provide a favorable background for the evaluation of the health attitudes of the high school students under consideration.

3. Selection of Sample

Several considerations were evident relative to the selection of the twenty-five schools used in this study. In the first place, it was necessary to include schools from a wide geographical distribution covering the state of Florida. Thus the schools selected were taken from each of the eight regions into which the 67 counties of the state of Florida are

divided. In the second place, it was felt that the schools selected should vary as to size, type, and community background. Furthermore, these schools should come from rural and urban areas, small towns, cities, agricultural and manufacturing localities.

Additional selective criteria can be based upon the desire to include schools from typical Florida counties as reported by Ervin.[1/] These included population, economic and educational background and ethnic composition.

4. Cooperating Schools

All twenty-five schools which cooperated in this study were accredited by the Florida State Department of Education. In addition, nine schools had been approved by the Southern Association of Secondary Schools and Colleges. Fifteen schools had grades 1 - 12, six were of the 7 - 12 type, three were of the 10 - 12 organizational nature and one contained grades 9 - 12. Table 3 presents data showing characteristics of these cooperating schools.

1/ Richard W. Ervin, "Amicus Curia," Brief of the Attorney General of Florida, October 1954, p. 153.

Table 3. Characteristics of Cooperating Schools Selected for Study

Number	Type of School	Schools Approved by Southern Association of Secondary Schools and Colleges	Non-Approved Schools
(1)	(2)	(3)	(4)
15	1-12	2	13
6	7-12	4	2
3	10-12	2	1
1	9-12	1	0
25		9	16

The twenty-five cooperating schools were located in 22 different Florida Counties covering the entire state, thus providing a uniform geographical distribution as well as a representative one.

4. Selected Areas of Health Education Under Consideration

One of the major objectives of this study was to assess the attitudes of twelfth grade students in Florida high schools in selected areas of health education. It was felt that some evidence of strong and weak areas could possibly serve for the improvement of curriculum offerings in health education. An inspection of the Byrd Health Attitude Scale revealed that statements from selected health areas appeared a sufficient number of times to make them desirable for this aspect of the study. The subject-matter areas from which these statements were taken can be seen

in Table 4. Seventy-nine statements comprise the actual number used in this investigation. Variations in responses as to sex, type of school, locality, previous experience in health and safety education and economic status of parents are to be reported as possible suggestions with implications for high school health instruction.

Table 4. Subject Matter Areas Under Consideration as Selected from the Byrd Health Attitude Scale

Area	Total Number of Statements
(1)	(2)
Public Health Practices.....	14
Use of Health Services and Facilities.....	12
School Health.....	11
Defense Against Communicable Diseases....	9
Defense Against Accidents.....	9
Family Health.....	7
Industrial Health.....	6
Defense Against Alcohol, Tobacco and Drugs..	6
Care of the Special Senses and Organs.....	5
Total.....	79

The statements found in Table 4 represent the nine health and safety areas under consideration in this study. An analysis and interpretation of attitude responses to these selected areas, can provide opportunity for the suggestion of a carefully organized and coordinated health instruction program on the secondary school level.

As early as 1929, Cairns concluded that,

> "Health instruction as now given is often based on teacher prejudice rather than scientific facts; it is inefficient, poorly organized, and the subject-matter is poorly selected." 1/

Much progress has been made since that time. Support for the inclusion of designated areas for health instruction on the secondary level has come from individuals and groups who have given the problem more than passing attention. The following comments are worthy of consideration:

> "A well-rounded education should consist of the following: Sex Education, Alcohol and Tobacco, Nutrition, Safety Education, Rules of Nature, Mental Hygiene and Everyday Problems." 2/

> "Education for safe living must become an integral part of the learning experiences provided by the schools if any material reduction of adolescent death rate is to be realized." 3/

> "The scope of health instruction is broad. The Joint Committee Report on "Health Education," suggest the following twelve major areas: (1) The Human Body; (2) Health Maintenance and Improvement; (3) Food; (4) Rest and Exercise; (5) Personality; (6) Personal Appearance; (7) Mental Health; (8) Family Life; (9) Alcohol; (10) Disease; (11) Accidents; (12) Public Health." 4/

1/ Laura A. Cairns, A Scientific Basis for Health Instruction in Public Schools, University of California Publications in Education, 1929, Vol. 2, Number 5, University of California Press, pp. 150-55.

2/ Elena M. Sliepcevich, "Problems in Health Teaching," Journal of Health, Physical Education and Recreation, Vol. 30, Number 10, September, 1952.

3/ Wesley M. Staton, "The Adolescent: His Physical Growth and Health," Review of Educational Research, Volume 24, Number 1, February, 1952.

4/ C. E. Turner, School Health and Health Education, The C. V. Mosby Company, St. Louis, 1952, p. 394.

> "It is clear that the need for health instruction, in all schools and at all grade levels, is vital to the total education of our young citizens. . . . However, one of the most pressing problems associated with the inclusion of health instruction in the curriculum is the difficulty in determining just what should be taught. This is particularly important at the secondary level which represents, in effect, the pupil's last opportunity to gain these knowledges and skills which must carry him through life." 1/

The expressed viewpoints reflect unanimity of thought and purpose and thus provide direction in accomplishing one of the objectives of this study, that of assessing the attitudes of high school students toward selected areas of health education.

Administrative Procedures.-- Prior to the beginning of the investigation, manila envelops, 10 x 13, and large enough to hold at least forty Byrd Health Attitude scales each were secured. Self-addressed, stamped envelopes of the same size were also collected so that principals of the schools selected for study could return the Health Attitude scales.

Blanks were prepared for tabulating distributions by total scores of the attitude scales, the selected health and safety education areas, and for tallying each of the five reactions to each statement.

All results obtained were summarized for the total sample, boys and girls, approved and non-approved schools and for schools from counties with different educational backgrounds.

1/ Leslie W. Irwin and Wesley M. Staton, "A Determination of Fundamental Concepts of Healthful Living and Their Relative Importance for General Education at the Secondary Level," Research Quarterly 22:3-27, March, 1951.

Informal discussions and interviews were held with former students, teachers, principals and supervisors. Letters were sent to principals explaining the purpose of the study and enlisting their support. The Byrd Health Attitude Scale, directions to supervising teachers, scoring sheets, special marking pencils and Student Inquiry Forms were sent to the 25 selected schools. All of the original number of schools contacted returned 1268 usable scales of the 1300 distributed. This 100 per cent return represents an unusually high number and is indicative of the interest and willingness of school administrators and teachers to cooperate in this study.

CHAPTER IV

ANALYSIS OF DATA

The purpose of this study is to evaluate the attitudes of Florida senior high school students toward selected areas of school health and safety education.

For this purpose the data and information analyzed were as follows:

1. Computation of the mean, standard deviation, and standard error of the mean of the Byrd Health Attitude Scale for girls, boys, and for the total sample.

2. Computation of the mean, standard deviation, and standard error of the mean of respondents from approved and non-approved Florida high schools.

3. Determining the percentage of correct and incorrect responses toward selected health education areas of boys and girls in approved and non-approved schools of the Southern Association of Secondary Schools and Colleges.

4. Correlation of scores of health knowledge test and health attitude scale to determine relationship between health knowledge and health attitudes.

5. Determining the significance of the difference between means of the approved and non-approved schools on the Byrd Health Attitude Scale.

6. Determining the percentage of "undecided responses of respondents to selected statements from nine different health areas.

7. Determining the reliability of the Byrd Health Attitude Scale.

8. Tabulation of the educational status of communities in which respondents lived.

9. Tabulation and analysis of parental occupational status.

Analysis of the data was based upon respondents randomly selected from grade twelve. Answer sheets used with the Byrd Health Attitude Scale were received from 1268 students of 1300 originally distributed.

After all of the answer sheets were prepared for scoring, they were arranged alphabetically by communities. Every third answer sheet was drawn until 422 were obtained. This was done so that analysis of results could be made on a representative group.

Table 5 shows that 42 per cent of the sample were boys and 58 per cent were girls.

Table 5. Composition of the High School Sample on which Analysis of Data is Based

	Number of Students	Per Cent
Boys	179	42
Girls	243	58
Total	422	100

1. Nature of the Sample

The Byrd Health Attitude Scale was administered to 1300 twelfth grade students in twenty-five schools located in 22 Florida counties and described as small or large, rural or urban. The geographical distribution of the sample by counties is as follows: Southeastern and southwestern coastal regions, northeast coastal and central regions, rural counties in Northwest Florida and urban counties in the extreme northwest portion of the state. Figure 1 graphically presents the distribution as reported.

As can be seen in Figure 1, the respondents in this study came from schools and counties representing different sections and localities of the state. It could thus be assumed that the attitudes evaluated would be representative of the total population. Variations in attitudes due to customs, locality, human and physical causes, may well be evident.

STATE OF FLORIDA

DEPARTMENT OF EDUCATION

TALLAHASSEE

THOMAS D. BAILEY
SUPERINTENDENT

EDUCATION MOLDS OUR FUTURE

BETTER SCHOOLS MAKE BETTER COMMUNITIES

OUTLINE MAP OF FLORIDA

Figure 1. Distribution of Sample by Counties.

Twenty-two counties of Florida's sixty-seven are presented as localities from which the sample of this study is taken. Analysis of data from such a diverse cross-section should provide a background for the possible development of implications and conclusions.

2. Organization of Data

The International Business Machine Card Punch and Tabulating equipment greatly aided in the analysis of data.

The initial step in this phase of the study was to tabulate the data and prepare general purpose tables. The scores of each statement of the 100 item Byrd Health Attitude scale were punched on International Business Machine cards. It was thus possible to determine the total score made when the answer sheets were tabulated. Use of the card punching technique was also applied to determine the number of responses in each of the five scoring positions of the total sample from approved schools. This technique provided an opportunity to observe the general direction of health attitudes of the total sample. Tabulation and organization of the data facilitated statistical treatment of findings, making it possible for variations, similarities and significant differences to be observed.

3. Distribution of Scores

The distribution of scores on the Byrd Health Attitude Scale by the total sample ranged from a low of 200 to a high of 469. Although the mean score, standard deviation, and the standard error of the mean did not exhibit significant differences, they did show noticeable variations. Significant differences among the group were observed when the sample areas was broken down.

Table 6 shows the distribution of scores obtained on the Byrd Health Attitude Scale by the total sample.

Table 6. Number and Percentage Distribution of Scores on the Byrd Health Attitude Scale by Total Sample.

Score	Number	Per Cent
(1)	(2)	(3)
460-479	5	1.2
440-459	19	4.5
420-439	51	12.1
400-419	96	22.7
380-399	123	29.1
360-379	72	17.0
340-359	26	6.0
320-339	11	2.6
300-319	6	1.4
280-299	5	1.2
260-279	4	.9
240-259	1	.2
220-239	2	.4
200-219	1	.2
Total	422	99.5

Correlation of Health Knowledge and Health Attitudes. -- A preliminary health knowledge test was administered to 116 students from a rural school, urban school and a university high school. A correlation of .44 with a standard error of .008 was obtained for boys. The correlation for girls was .60 with a standard error of .10. Each correlation is significant at the 1 per cent level. The higher correlation recorded for the girls gives indication of more favorable health attitudes as well as a better understanding of health knowledge. Both correlations show positive relationship between health knowledge and health attitudes.

Observation of table 7 reveals statistics pertinent to the investigation.

Table 7. Distribution Statistics of Scores on the Byrd Health Attitude Scale by Total Sample

Range	200 to 469
Mean	390.6
Median	393.4
Sigma	36.40

$$\text{Measure of Skewness} = 3\ \frac{\text{M-Median}}{\text{Sigma}} = -2.8$$

The mean score of the total sample is 390.6 and the median is 393.4 The indications are that the total sample is not distributed normally around its mean. The measure of skewness of minus 2.8 further indicates that the distribution is negatively skewed with the massing of scores on the upper end and a wide spread of scores at the lower end.

As indicated in Table 6, forty per cent of the total group made scores on the Byrd Health Attitude Scale ranging from 400 to 469, while twenty-nine per cent of the scores fell between the 380-399 area. The remaining thirty-one per cent of the scores fell below the 380-399 mark.

Comparison by Sex. -- Observation of Table 8 will reveal that there is a small difference between the mean scores and standard deviations of male and female respondents on the Byrd Health Attitude Scale.

Table 8. Mean Scores and Standard Deviations of Boys and Girls on the Byrd Health Attitude Scale

Number	Sex	Mean Score	Standard Deviation
(1)	(2)	(3)	(4)
179	Boys	391.1	30.2
243	Girls	391.0	33.2
422			

The mean score of boys was 391.1 and the standard deviation was 30.2 For girls, the mean score was 391.0 and the standard deviation was 33.2. Because of the small difference between the mean scores, it may be reasonably assumed that the health attitudes of the boys and girls of this sample are closely related and that no significant difference exists.

Additional comparison of the distribution of scores by male and female respondents can be seen in Figure 2. Examination shows that when the distribution of scores for the Byrd Health Attitude Scale for boys and girls is plotted on the same scale, the distribution is very similar. No significant difference is present between the mean scores of this sample of the population.

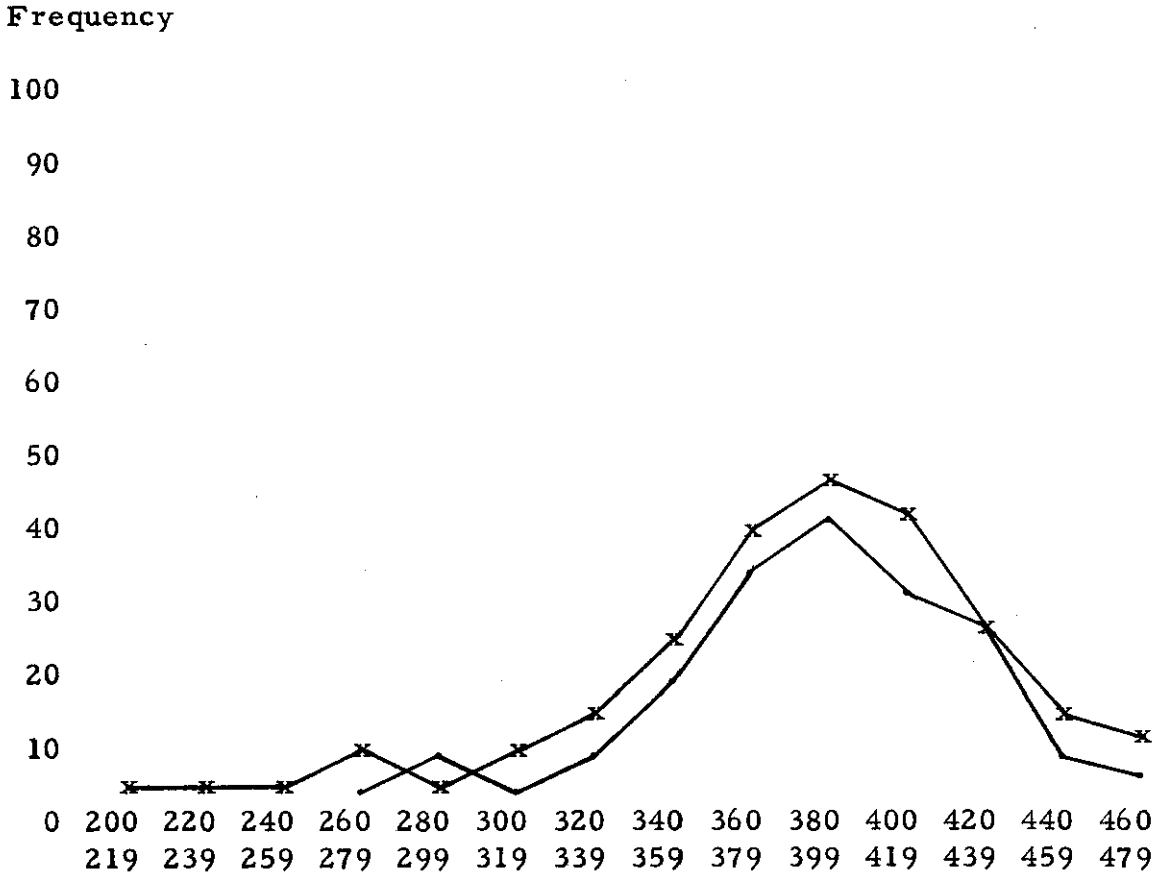

Figure 2. Distribution of Scores of Boys and Girls on Health Attitude Scale

Slight variations in scores between boys and girls are revealed in Figure 2. However, further analysis of the data show that more boys than girls, 48 per cent to 46 per cent, made scores ranging from 340 to 399. More girls than boys scored in the 400-439 level. The difference here was 36 to 49 per cent in favor of the girls.

Further consideration of the data reveals the differences between respondents from approved and non-approved schools. Students from schools approved by the Southern Association of Secondary Schools and Colleges obtained a mean score of 393.3 and a standard deviation of 38.6. Students from non-approved schools obtained a mean score of 387.8 and a standard deviation of 37.0.

With a noticeable variation between the two groups, the generalization can be made that students in schools approved by the Southern Association of Secondary Schools and Colleges manifest more favorable health attitudes than do students in non-approved schools. Improved facilities and adequate teacher training necessary for securing and maintaining accreditation in the association may be contributing factors in the differences in favor of approved schools. More favorable responses were given by students from approved schools than by those in non-approved schools. Slight differences in responses existed between boy and girl respondents with girls scoring higher in some areas and boys scoring higher in others.

With a score of 400 considered as manifesting a favorable health attitude, a mean score of less than 400 supports the assumption that there is need for improvement of health attitudes of the sample under consideration. It can also imply that there is opportunity for the improvement of curriculum offerings in the area of health instruction on the secondary school level. Table 9 further reveals the breakdown of data.

Table 9. Type of School, Number of Students and Statistics of Respondents from Approved and Non-Approved Schools

Type of School	Number of Students	Mean Score	Standard Deviation	Standard Errors of the Mean
(1)	(2)	(3)	(4)	(5)
Approved Schools	218	393.3	38.6	2.61
Non-Approved Schools	204	387.8	37.0	2.58

In testing the significance of the difference between the means of the approved and non-approved schools, the test shows that the difference is significant at the 2 per cent level. (Only 2 times in 100 could one get such a difference by chance).

The formula used in determining the significance of the difference between the means of the approved and non-approved schools is from Larson and Yocum and reads: [1]

$$\sigma_{d_M} = \sqrt{\sigma^2_{M1} + \sigma^2_{M2}}$$

[1] Leonard A. Larson and Rachel D. Yocum, Measurement and Education in Physical, Health and Recreation Education, The C. V. Mosby Company, St. Louis, 1951, p. 341.

The standard error of the mean of approved schools was 6.73. There are 99 chances in 100 that the means of all unmeasured samples from the same population will fall within 386.5 and 400 and that the true mean will fall within these limits. There is only one chance in 100 that the true mean will fall outside these limits.

In computing the standard error of the mean at the one per cent level of confidence, analysis of the data shows that the limits of fluctuation of the means to be 394.4 and 381.1. The chances are that any other mean from this sample of the population will fall outside these limits only once in 100 times or within these limits 99 times out of 100.

Establishing Validity and Reliability of the Byrd Health Attitude Scale. --

The validity of the Byrd Health Attitude Scale was obtained from the literature [1] and through a report of the author. [2] Larson lists a reliability of .95 for the scale and declared that validity was determined by expert judgement on selection of questions and scoring.

For purposes of this investigation, the reliability of the scale was

---

1/ Leonard A. Larson and Rachel D. Yocum, Measurement and Evaluation in Physical, Health and Recreation Education, The C. V. Mosby Company, 1951, St. Louis, p. 248.

2/ Oliver E. Byrd, Byrd Health Attitude Scale, Palo Alto, California: Stanford University Press, 1940.

determined by use of the general Kuder-Richardson formula which follows:

$$r^{tt} = \left(\frac{N}{N-1}\right)\left(\frac{2r - \Sigma pq}{2r \quad \sigma_M}\right)$$

A reliability of .98 was observed, a significant factor for the present investigation.

Influence of Educational and Economic Status on Attitudes. -- Investigators have claimed that the attitudes of individuals may be influenced by the educational-economic status of the parents and that local customs, mores and beliefs can contribute to these attitudes. This contention has been further supported by the following statement:

> "It is obvious that there is a high degree of communality of attitudes between parents and children and that, therefore, the attitudes of parents in-so-far as these attitudes objects are representative, can be fairly accurately predicted from those of their children, and vice-versa." 1/

No attempt was made in this study to correlate scores made on the health attitude scale with information relative to educational background and economic status of parents. This was due in part to the nature of the data obtained. However, due consideration can be given these pertinent factors as possible causative reactions upon the attitudes of the sample under consideration.

1/ Herman R. Remmers and Naomi Weltman, "Attitudes, Inter-relationship of Youth, their Parents, and their Attitudes," Journal of Social Psychology, 26:64, August 1947.

An analysis of responses to the Byrd Health Attitude Scale by students from communities having different median school years completed, shows a significant difference.

Five counties with 114 students or 27 per cent of the sample listed in the 1950 Census [1/] as having median school years completed of 10 years, obtained a higher mean score than did other students.

Three hundred and eight students or 73 per cent came from counties in which the median school years completed is less than 10 years. The mean score of this group was considerably lower.

Table 10. The Relative Performance of Students from Different Communities on the Byrd Health Attitude Scale

Counties	No. Students	Mean	Sigma
(1)	(2)	(3)	(4)
Median School Years completed over 10 years	114	407.6	31.3
Median School Years completed under 10 years	308	386.8	24.8
Total	422		

Observation of Table 10 indicates that the mean score of the group

1/ U. S. Department of Commerce, Census of Population: 1950, Vol. 2, Characteristics of the Population, Part 10, Florida, pp. 93-96.

from communities with median school years completed of 10 years was 407.6. The standard deviation was 31.3.

A mean score of 386.8 with a standard deviation of 24.8 is reported for students from communities in which the median school years completed is less than 10 years. Although no attempt has been made in this study to show that additional years completed have a causal effect on attitudes, observation of the difference between the mean scores of the students in this sample, provides opportunity for the consideration of possible relationship between the factors.

Consideration of Parental Occupations. -- For purposes of this study, occupations were arbitrarily classified as skilled, unskilled and professional. The responses showed that 36 per cent of the parents were employed in skilled trades, 26 per cent were listed as being in unskilled work, while 3 per cent of the parents were reported as serving in professional occupations. Thirty-four per cent either failed to list parental occupations or reported "deceased" or "unemployed." Table 11 reveals the tabulation of parental occupations of this sample.

Table 11. Distribution of Parental Occupations of Total Sample of Respondents

Type of Occupation	Number	Per Cent
(1)	(2)	(3)
Skilled	154	36
Unskilled	110	26
Professional	14	3
Unreported		
a. Deceased		
b. Unemployed	144	34
Total	422	99

Observation of Table 11 shows that two hundred seventy-eight, or 65 per cent of the respondents supplied information which revealed a diverse economic spread in skilled and unskilled occupations and professional pursuits. Thirty-four per cent or 144 students, provided information which could not be classified in either one of the three occupational categories.

It is not to be implied that educational background and economic status of parents are causative factors in the health attitudes of the students of this sample. However, their presence as possible influencing factors must be considered.

Areas and Percentage of Favorable Responses by Total Sample from Approved Schools.

Distribution of Responses. -- Analysis of data in Figure 3 pertaining

to the nine major areas of health under consideration, reveals that the highest percentage of favorable responses was reported for School Health. High percentages of favorable responses were also reported for the following areas in descending order: Defenses Against Accidents, Use of Health Services and Facilities, Family Health, Public Health Practices, and Defense Against Communicable Diseases. The areas on Defense Against Alcohol, Tobacco and Drugs, Industrial Health, and Care of the Special Senses and Organs, show a higher percentage of unfavorable responses. The results in the latter areas reveal greater educational needs on the part of students.

Table 12 presents areas and per cent of favorable responses by the total sample from approved schools.

Table 12. Areas, Number and Percentage of Favorable Responses by Total Sample from Approved Schools

Areas	Number of Statements	Percentage of Favorable Responses
(1)	(2)	(3)
School Health	11	82%
Defenses Against Accidents	9	79%
Use of Health Services and Facilities	12	76%
Family Health	7	74%
Public Health Practices	14	73%
Defense Against Communicable Diseases	9	72%
Defense Against Alcohol, Tobacco and Drugs	6	69%
Industrial Health	6	67%
Care of the Special Senses and Organs	5	65%
Total	79	

The analysis of data by areas reveals percentage variations to the 79 statements which made up the total nine areas under consideration. Opportunities are therefore provided to locate objectively strong and weak sections, favorable and unfavorable responses. This assumption may be further supported by observation of Figure 3.

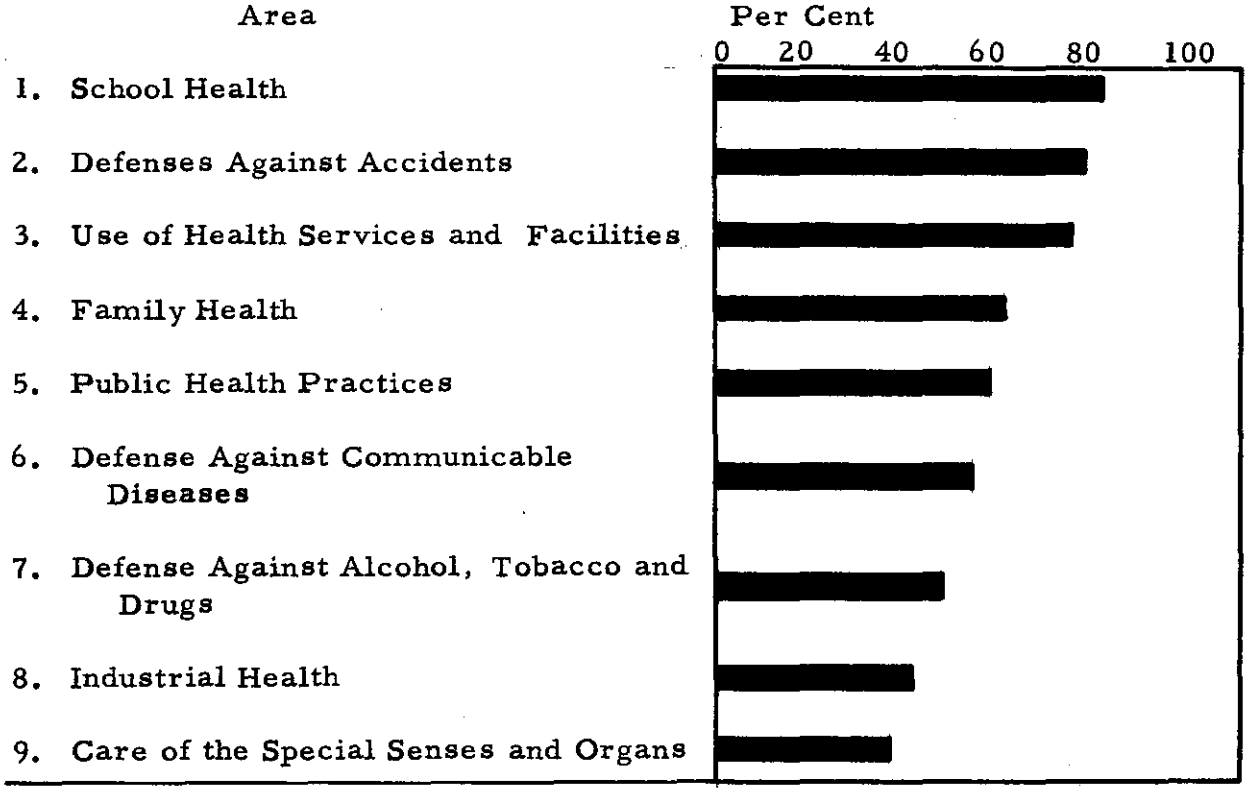

Figure 3. The Percentage of Favorable Responses to Selected Areas of Health and Safety Education by Total Sample from Approved Schools.

With the areas showing varying degrees of favorable responses, it may be reasonably deducted that the differences reported support the assumption that more favorable attitudes exist toward those areas with high percentages than toward those reporting low percentages.

It is significant that a generally favorable attitude was reported for the area of School Health. Observation of Table 13 indicates a detailed account of the responses to eleven statements in this area. In this table and the others which follow, the percentages for the positions of "Strongly Agree" and "Agree", "Disagree" and "Strongly Disagree" are combined. The position of "Undecided"is listed as reported. The varied recorded feelings as expressed by the percentages of the respondents help to designate positive or negative attitudes of the students in this study.

Table 13. Analysis of Responses by Total Sample From Approved Schools of Eleven Statements on School Health

Statement Number	Statement	No. of Sample	Per Cent Strongly Agree
(1)	(2)	(3)	(4)
A.	Statements with which Sample Strongly Agrees	218	
31.	The school should have nothing to do with the health of students		5%
33.	There should be no school doctors.		5%
34.	Teachers should be taught to know the signs of communicable diseases.		91%

(continued on next page)

Table 13. (Continued)

Statement Number	Statement	No. of Sample	Per Cent Strongly Agree
(1)	(2)	(3)	(4)
35.	The school should have no right to give a child a medical examination		9%
39.	The health program of the school should be limited to that of supplying clean rooms for pupils.		39%
40.	The schools should increase their medical services to children		86%
46.	School children should be tested for tuberculosis.		92%
55.	Compulsory physical education should be abolished.		16%
57.	The schools should make no recommendations to the parents about the health of their children.		9%
59.	The teacher should pay no attention to the health of the student.		4%
94.	Schools should furnish free lunches to needy and undernourished students.		83%

Statement Number	Statement	No. of Sample	Per Cent Undecided
(1)	(2)	(3)	(4)
B.	Statements with which Sample is Undecided	218	
31.	The school should have nothing to do with the health of students.		1%
33.	There should be no school doctors		2%
34.	Teachers should be taught to know the signs of communicable diseases.		5%

(Continued on next page)

Table 13. (Continued)

Statement Number	Statement	No. of Sample	Per Cent Undecided
(1)	(2)	(3)	(4)
35.	The school should have no right to make a child take a medical examination.		11%
39.	The health program of the school should be limited to that of supplying clean rooms for pupils.		16%
40.	The schools should increase their medical services to children.		6%
46.	School children should be tested for tuberculosis.		3%
55.	Compulsory physical education should be abolished.		22%
57.	The schools should make no recommendations to the parents about the health of their children.		6%
59.	The teacher should pay no attention to the health of the student.		5%
94.	Schools should furnish free lunches to needy and undernourished children.		5%

(Concluded on next page)

Table 13 (Concluded)

Statement Number	Statement	No. of Sample	Per Cent Disagree Strongly Disagree
(1)	(2)	(3)	(4)
	C. Statements with which Sample Disagrees and Strongly Disagrees	218	
31.	The school should have nothing to do with the health of students		93%
33.	There should be no school doctors.		92%
34.	Teachers should be taught to know the signs of communicable diseases.		3%
35.	The school should have no right to give a child a medical examination.		79%
36.	The health program of the school should be limited to that of supplying clean rooms for pupils.		44%
40.	The schools should increase their medical services to children.		8%
46.	School children should be tested for tuberculosis.		2.4%
55.	Compulsory Physical Education should be abolished.		61%
57.	The schools should make no recommendations to the parents about the health of their children.		84%
59.	The teacher should pay no attention to the health of the student.		90%
94.	Schools should furnish free lunches to needy and undernourished students.		12%

A combined total of 93 per cent of the respondents indicated a favorable response to statement 31, which is as follows: "The school should have nothing to do with the health of students." The favorable position taken on this statement may be due to the increased emphasis on school health services or may be the result of the development of attitudes concerning medical care, health examinations and the work of voluntary and governmental agencies.

Attitudes of respondents may be considered as being fairly stable and constant relative to statement 39, "The health program of the school should be limited to that of supplying clean rooms for pupils." There appears an apparent need for explanation and discussion of the scope of the school health program. The closeness of responses implies the need for revitalized instruction and clarification by those charged with training Florida youth.

Ninety-two was the highest percentage recorded for statement 46, "School children should be tested for tuberculosis." This high percentage of favorable responses is an indication that education has helped in forming desirable attitudes. The dramatic reduction of tuberculosis among the sample investigated, may be attributed to changed behavior or living as a result of improved attitudes.

Although 22 per cent were "undecided" about statement 55, "Compulsory physical education in schools should be abolished," actually a favorable attitude was expressed. Sixty-one per cent of the

respondents disagreed with the statement. Thus the attitude toward this area of education by the sample under consideration, may be assumed to be a desirable one.

Table 14 presents an analysis of data relative to the area pertaining to Defenses Against Accidents.

Table 14. Analysis of Responses by Total Sample from Approved Schools of Nine Statements on Defenses Against Accidents

Statement Number	Statement	No. of Sample	Per Cent Strongly Agree & Agree
(1)	(2)	(3)	(4)
	A. Statements with which sample Strongly Agrees and Agrees		
		218	
16.	A beginning driver should go through a probation period before getting a driver's license		69%
30.	The fire department should inspect homes for fire hazards.		78%
61.	A driver should be allowed to pass another automobile going in the same direction up a hill.		4%
62.	Homes should have fire-extinguishers ready for use.		87%
69.	A person should examine the exhaust system of his automobile occasionally to see if it has leaks.		84%
75.	A person who has been drinking alcohol should drive an automobile if he wants to do so.		3%

(Continued on next page)

Table 14 (Continued)

Statement Number	Statement	No. of Sample	Per Cent Strongly Agree & Agree
(1)	(2)	(3)	(4)
77.	Children should be allowed to play with fireworks.		8%
86.	A drunken driver should have his license permanently revoked.		63%
90.	A complete medical examination should be a requirement for obtaining a driver's license.		58%

Statement Number	Statement	No. of Sample	Per Cent Undecided
(1)	(2)	(3)	(4)
	B. Statements with which sample is Undecided.	218	
16.	A beginning driver should go through a probation period before getting a driver's license.		12%
30.	The fire department should inspect homes for fire hazards.		11%
61.	A driver should be allowed to pass another automobile going in the same direction up a hill.		2%
62.	Homes should have fire extinguishers ready for use.		6%
69.	A person should examine the exhaust system of his automobile occasionally to see if it has leaks.		11%
75.	A person who has been drinking alcohol should drive an automobile if he wants to do so.		1%

(Concluded on next page)

Table 14. (Concluded)

Statement Number	Statement	No. of Sample	Per Cent Undecided
(1)	(2)	(3)	(4)
77.	Children should be allowed to play with fireworks.		11%
86.	A drunken driver should have his license permanently revoked.		13%
90.	A complete medical examination should be a requirement for obtaining a driver's license.		24%

Statement Number	Statement	No. of Sample	Per Cent Dis-Agree-Strong-ly Disagree
(1)	(2)	(3)	(4)
C.	Statements with which sample Disagrees and Strongly Disagrees	218	
16.	A beginning driver should go through a probation period before getting a driver's license.		18%
30.	The fire department should inspect homes for fire hazards.		10%
61.	A driver should be allowed to pass another auromobile going in the same direction up a hill.		97%
62.	Homes should have fire extinguishers ready for use.		2%
69.	A person should examine the exhaust system of his automobile occasionally to see if it has leaks.		5%
75.	A person who has been drinking alcohol should drive an automobile if he wants to do so.		93%
77.	Children should be allowed to play with fireworks.		80%
86.	A drunken driver should have his license permanently revoked.		27%
90.	A complete medical examination should be a requirement for obtaining a driver's license.		19%

As one of the major health problems in the state and in the nation, a favorably expressed attitude in Safety and Accident Prevention is an encouraging feature. However, in safety matters, the behavior patterns of an individual should be the culmination of an expressed attitude. Opportunities for improving the attitudes of this sample of secondary youth in Accident Prevention are still ample. This is due to the fact that the "undecided" responses ranged from 11 to 24 per cent.

Table 15 lists the findings relative to Use of Health Services and Facilities. Seventy-six per cent of favorable responses were reported for this entire area.

Table 15. Analysis of Responses by Total Sample from Approved Schools of Twelve Statements on Use of Health Services and Facilities

Statement Number	Statement	No. of Sample	Per Cent Strongly Agree and Agree
(1)	(2)	(3)	(4)
A.	Statements with which Sample Strongly Agrees and Agrees	218	
19.	There should be no health examination unless a person is sick		11%
48.	Any persistent pain should cause a person to have a medical examination.		85%
67.	A baby should have a health examination in its first week of life.		78%

(Continued on next page)

Table 15. (Continued)

Statement Number	Statement	No. of Sample	Per Cent Strongly Agree and Agree
(1)	(2)	(3)	(4)
68.	A person who has continued indigestion should have a medical examination.		94%
71.	A person past fifty years needs no health examinations as a regular procedure.		84%
81.	A person should cure himself without going to any kind of doctor.		5%
84.	A medical advisor should be allowed to practice medicine only if he has a state license.		70%
85.	A person should sometimes consult a medical adviser.		47%
89.	Only children should have regular dental examinations		7%
91.	About the age of sixteen, a person should have a health examination with special attention to any signs of tuberculosis.		88%
92.	A person should have a health examination at least once a year.		89%
99.	Health agencies should work independently of each other.		42%

(Continued on next page)

Table 15. (Continued)

Statement Number	Statement	No. of Sample	Per Cent Undecided
(1)	(2)	(3)	(4)
	B. Statements with which Sample is Undecided.	218	
19.	There should be no health examination unless a person is sick.		35%
48.	Any persistent pain should cause a person to have a medical examination.		8%
67.	A baby should have a health examination in its first week of life.		8%
68.	A person who has continued indigestion should have a medical examination.		3%
71.	A person past fifty years needs no health examinations as a regular procedure.		7%
81.	A person should cure himself without going to any kind of doctor.		7%
84.	A medical adviser should be allowed to practice medicine only if he has a state license.		15%
85.	A person should sometimes consult a medical adviser.		33%
89.	Only children should have regular dental examinations.		3%
91.	About the age of sixteen, a person should have a health examination with special attention to any signs of tuberculosis.		5%
92.	A person should have a health examination at least once a year.		.4%
99.	Health agencies should work independently of each other		19%

(Concluded on next page)

Table 15. (Concluded)

Statement Number	Statement	No. of Sample	Per Cent Disagree Strongly Disagree
(1)	(2)	(3)	(4)
B.	Statements with which Sample Disagrees-Strongly Disagrees		
		218	
19.	There should be no health examination unless a person is sick		55%
48.	Any persistent pain should cause a person to have a medical examination.		7%
67.	A baby should have a health examination in its first week of life.		14%
68.	A person who has continued indigestion should have a medical examination.		2%
71.	A person past fifty years needs no health examinations as a regular procedure.		8%
81.	A person should cure himself without going to any kind of doctor.		87%
84.	A medical adviser should be allowed to practice medicine only if he has a state license.		15%
85.	A person should sometime consult a medical adviser.		20%
89.	Only children should have regular dental examinations		90%
91.	About the age of sixteen, a person should have a health examination with special attention to any signs of tuberculosis.		6.8%
92.	A person should have a health examination at least once a year.		9.9%
99.	Health agencies should work independently of each other.		39%

Two significant responses were observed in the analysis of data and are worthy of consideration. Although 55 per cent of the sample disagreed to statement 19, "There should be no health examination unless a person is sick," 35 per cent were undecided. A need for a revision of the thinking of this sample is apparent. Calling attention to the preventive aspects of medicine through health and medical examinations may contribute to the formation of desirable attitudes which could lead to improved behavior.

The response to statement 99 is significant. The statement "Health agencies should work independently of each other," received a wide and varied spread of answers. Forty-two per cent of the respondents agreed that health agencies should work independently of each other, while 39 per cent expressed a more favorable attitude by disagreeing. Nineteen per cent recorded "undecided". The significant differences in the expressed attitudes of students may provide opportunities for clarification of misconceptions concerning the function and organization of health agencies in a given community. Proper and intelligent use of health services and facilities indicates mature individuals capable of safeguarding their own welfare and that of others.

Analysis of the findings on Family Health can be seen in Table 16. Seventy-four per cent of the responses in this area were favorable, a fact which indicates that the attitudes of the sample are desirable.

Table 16. Analysis of Responses by Total Sample from Approved Schools of Seven Statements on Family Health

Statement Number	Statement	No. of Sample	Per Cent Strongly Agree-Agree
(1)	(2)	(3)	(4)
A.	Statements with which Sample Strongly Agrees and Agrees	218	
15.	Children should be allowed to attend the "second show."		5%
21.	People who are going to get married should do so without having a health examination		11%
26.	There should be marriage bureaus to give advice to those who are married.		71%
41.	Families should employ kitchen help without insisting on a medical examination.		8%
43.	Families should employ nursemaids without insisting that they have a health examination.		16%
45.	A person should try to cure cancer by dieting (changing his eating habits).		16%
80.	All members of the family should have regular medical examinations even if they are not sick.		33%

(Continued on next page)

Table 16. (Continued)

Statement Number	Statement	No. of Sample	Per Cent Undecided
(1)	(2)	(3)	(4)
	B. Statements with which Sample is Undecided.		
		218	
15.	Children should be allowed to attend the "second show".		14%
21.	People who are going to get married should do so without having a health examination.		14%
26.	There should be marriage bureaus to give advice to those who are married		15%
41.	Families should employ kitchen help without insisting on a medical examination.		8%
43.	Families should employ nursemaids without insisting that they have a health examination.		9%
45.	A person should try to cure cancer by dieting (changing his eating habits).		32%
80.	All members of the family should have regular medical examinations even if they are not sick.		15%

(Concluded on next page)

Table 16. (Concluded)

Statement Number	Statement	No. of Sample	Per Cent Dis-agree Strongly Disagree
(1)	(2)	(3)	(4)
	C. Statements with which Sample Disagrees and Strongly Disagrees	218	
15.	Children should be allowed to attend the "second show".		80%
21.	People who are going to get married should do so without having a health examination.		75%
26.	There should be marriage bureaus to give advice to those who are married.		15%
41.	Families should employ kitchen help without insisting on a medical examination.		87%
43.	Families should employ nursemaids without insisting that they have a health examination.		77%
45.	A person should try to cure cancer by dieting (changing his eating habits).		58%
80.	All members of the family should have regular medical examinations even if they are not sick.		14%

The above statements dealing with Family Health show that the "undecided" response ranged from 8 to 32 per cent. Thirty-two per cent of the respondents were "undecided" about statement number 45: "A person should try to cure cancer by dieting (changing his eating habits)."

A total of 21 per cent reported "disagree" and 37 per cent recorded "strongly disagree", for a total of 58 per cent as expressing a favorable attitude. A total of 11 per cent agreed with the statement.

The implications are pertinent for health instruction pertaining to non-communicable diseases, with special emphasis on cancer education, as far as this high school sample is concerned.

In the area of Public Health Practices, fourteen statements received a favorable response of 73 per cent. The detailed analysis of the findings may be observed in Table 17, which follows:

Table 17. Analysis of Responses by Total Sample from Approved Schools of Fourteen Statements on Public Health Practices.

Statement Number	Statement	No. of Sample	Per Cent Strongly Agree-Agree
(1)	(2)	(3)	(4)
A.	Statements with which Sample Strongly Agrees and Agrees		
		218	
2.	The government should require all people to be insured for sickness.		55%
3.	The health department should leave all health matters to doctors.		12%
4.	All persons with tuberculosis should be registered with the public health department		84%
6.	The United States should cooperate with all nations of the world in controlling disease.		68%

(Continued on next page)

Table 17.

Statement Number	Statement	No. of Sample	Per Cent Strongly Agree-Agree
(1)	(2)	(3)	(4)
8.	In the larger cities, there should be health museums for health education of the public.		88%
10.	The water in public swimming pools should be sterilized.		85%
24.	The law should require all dishes in restaurants and soda fountains to be washed in a powerful antiseptic solution.		76%
25.	Raw milk should be served in restaurants and soda fountains.		15%
37.	Workers in restaurants and soda fountains should be employed without regard to their training in sanitation.		13%
52.	The public health departments should be consulted in any housing program that calls for slum clearance.		71%
58.	Picnic grounds should be supervised by the public health department.		84%
82.	State laws should provide that cancer be reported to the public health authorities.		79%
88.	The law should prohibit advertisement of "cancer cures".		36%
97.	It should be against the law to put sugar in an open container in restaurants or fountains.		71%

(Continued on next page)

Table 17. (Continued)

Statement Number	Statement	No. of Sample	Per Cent Undecided
(1)	(2)	(3)	(4)
	B. Statements with which Sample is Undecided.		
		218	
2.	The government should require all people to be insured for sickness.		19%
3.	The health department should leave all health matters to doctors.		6%
4.	All persons with tuberculosis should be registered with the public health department.		5%
6.	The United States should cooperate with all nations of the world in controlling disease.		22%
8.	In the larger cities, there should be health museums for health education of the public.		9%
10.	The water in public swimming pools should be sterilized.		6%
24.	The law should require all dishes in restaurants and soda fountains to be washed in a powerful antiseptic solution.		12%
25.	Raw milk should be served in restaurants and soda fountains		24%
37.	Workers in restaurants and soda fountains should be employed without regard to their training in sanitation.		3%
52.	The public health departments should be consulted in any housing program that calls for slum clearance.		29%

(Continued on next page)

Table 17. (Continued)

Statement Number	Statement	No. of Sample	Per Cent Undecided
(1)	(2)	(3)	(4)
58.	Picnic grounds should be supervised by the public health department		12%
82.	State laws should provide that cancer be reported to the public health authorities.		13%
88.	The law should prohibit advertisement of "cancer cures."		25%
97.	It should be against the law to put sugar in an open container in restaurants or fountains.		12%

Statement Number	Statement	No. of Sample	Per Cent Disagree-Strongly Disagree
(1)	(2)	(3)	(4)
C.	Statements with which Sample Disagrees and Strongly Disagrees		
		218	
2.	The government should require all people to be insured for sickness.		25%
3.	The health department should leave all health matters to doctors.		82%
4.	All persons with tuberculosis should be registered with the public health department.		11%
6.	The United States should cooperate with all nations of the world in controlling disease.		10%
8.	In the larger cities, there should be health museums for health education of the public.		2.9%

(Concluded on next page)

Table 17. (Concluded)

Statement Number	Statement	No. of Sample	Per Cent Disagree-Strongly Disagree
(1)	(2)	(3)	(4)
10.	Water in public swiming pools should be sterilized		6%
24.	The "law" should require all dishes in restaurants and soda fountains to be washed in a powerful antiseptic solution.		12%
25.	Raw milk should be served in restaurants and soda fountains.		60%
37.	Workers in restaurants and soda fountains should be employed without regards to their training in sanitation.		84%
52.	The public health departments should be consulted in any housing program that calls for slum clearance.		5%
58.	Picnic grounds should be supervised by the public health department		4%
82.	State laws should provide that cancer be reported to the public health authorities.		7%
88.	The law should prohibit advertisement of "cancer cures".		40%
97.	It should be against the law to put sugar in an open container in restaurants or fountains.		15%

Favorable responses were reported for some statements as high as 88 per cent. "Undecided" responses were reported by percentages ranging from 12 to 29. The wide and varied differences observed, provide opportunities for the assessment of individual and group attitudes.

The highest favorable percentages were recorded for statements 3, 4, 8, 10, 37 and 58. With reference to statement number 2, "The government should require all people to be insured for sickness," 55 per cent "agreed", 19 per cent were "undecided" and 25 per cent "disagreed". It can possibly be assumed that the sample under consideration may be influenced by the growth in popularity of private insurance to cover hospital and surgical expenses. Although more than half of the sample agreed to this statement, 19 per cent reported "undecided".

Significant findings were observed in connection with statement 6 relative to the United States' cooperation with all nations of the world in controlling disease. Twenty-two per cent reported "undecided", 68 per cent were in agreement with the statement and 10 per cent "disagreed".

The opportunity for changing the attitudes of students presents a challenge to educators. The developing of a social concept is essential in the training of youth. In this instance it enables one to realize that germs, disease and disability are no respectors of individuals or of nations. It also calls attention to national and international cooperation so essential for the solving of common problems of mankind.

In the area, Defenses Against Communicable Diseases, wide variations existed. Table 18 presents analysis of results.

Table 18. Analysis of Responses by Total Sample from Approved Schools of Nine Statements on Defenses Against Communicable Diseases

Statement Number	Statement	No. of Sample	Per Cent Strongly Agree - Agree
(1)	(2)	(3)	(4)
A. Statements with which Sample Strongly Agrees and Agrees		218	
14.	People should be vaccinated for smallpox about every seven years.		40%
36.	Teachers should be tested for tuberculosis before being employed.		87%
38.	Airplanes arriving from foreign countries should be quarantined until inspected and sprayed for insects.		78%
56.	Some form of financial assistance should be given to families in which there is tuberculosis.		65%
72.	There should be a law to make everyone get vaccinated against smallpox.		61%
74.	People should be vaccinated for protection against as many diseases as possible.		93%
76.	A person with a cold should go to bed at once.		51%

(Continued on next page)

Table 18. (Continued)

Statement Number	Statement	No. of Sample	Per Cent Strongly Agree-Agree
(1)	(2)	(3)	(4)
78.	A bottle of milk should be washed before the top is removed and the milk is poured.		78%
96.	Everybody should be tested for tuberculosis.		89%

Statement Number	Statement	No. of Sample	Per Cent Undecided
(1)	(2)	(3)	(4)
	B. Statements with which Sample is Undecided		
		218	
14.	People should be vaccinated for smallpox about every seven years.		23%
36.	Teachers should be tested for tuberculosis before being employed.		2%
38.	Airplanes arriving from foreign countries should be quarantined until inspected and sprayed for insects.		18%
56.	Some form of financial assistance should be given to families in which there is tuberculosis.		23%
72.	There should be a law to make everyone get vaccinated against smallpox.		22%
74.	People should be vaccinated for protection against as many diseases as possible.		3%

(Continued on next page)

Table 18. (Continued)

Statement Number	Statement	No. of Sample	Per Cent Undecided
(1)	(2)	(3)	(4)
76.	A person with a cold should go to bed at once.		24%
78.	A bottle of milk should be washed before the top is removed and the milk is poured.		12%
96.	Everybody should be tested for tuberculosis.		7%

Statement Number	Statement	No. of Sample	Per Cent Strongly Disagree - Disagree
(1)	(2)	(3)	(4)
	C. Statements with which Sample Disagrees and Strongly Disagrees	218	
14.	People should be vaccinated for smallpox about every seven years.		31%
36.	Teachers should be tested for tuberculosis before being employed.		5%
38.	Airplanes arriving from foreign countries should be quarantined until inspected and sprayed for insects.		3%
56.	Some form of financial assistance should be given to families in which there is tuberculosis.		7%
72.	There should be a law to make everyone get vaccinated against smallpox.		16%

(Concluded on next page)

Table 18. (Concluded)

Statement Number	Statement	No. of Sample	Per Cent Strongly Disagree-Disagree
(1)	(2)	(3)	(4)
74.	People should be vaccinated for protection against as many diseases as possible		5%
76.	A person with a cold should go to bed at once.		25%
78.	A bottle of milk should be washed before the top is removed and the milk is poured.		10%
96.	Everybody should be tested for tuberculosis.		4%

Although 93 per cent of the respondents agreed to statement 74 that "People should be vaccinated for protection against as many diseases as possible," only 43 per cent registered a favorable attitude toward statement 14, "People should be vaccinated for smallpox about every seven years." The wide range of favorable responses gives an indication of needed clarification and information on vaccination protection.

Significant differences were also observed in responses to statement 76, "A person with a cold should go to bed at once." Fifty-one per cent of the respondents agreed to this statement, while 24 per cent were undecided. Conflicting and uncertain ideas as to desirable health practices in this area may be seen in the varied responses spread.

Although science has made marked progress in the control and eradication of communicable diseases, it still remains for education to solidify the gains made. Adequate health instruction for all youth will provide knowledge, develop attitudes and change behavior of individuals.

In the area of Defenses Against Alcohol, Tobacco and Drugs, favorable responses were reported with noticeable variations. The varied responses give indication of the need to provide up-to-date scientific information for secondary school youth in this area. Table 19 lists statements and variations as were reported by the sample.

Table 19. Analysis of Responses by Total Sample from Approved Schools of Six Statements on Defenses Against Alcohol, Tobacco and Drugs

Statement Number	Statement	No. of Sample	Per Cent Strongly Agree-Agree
(1)	(2)	(3)	(4)
	A. Statements with which Sample Strongly Agrees and Agrees	218	
11.	A person should smoke more than twenty cigarettes a day if he wants to.		7%
17.	A pregnant woman should drink alcohol if she so desires.		9%
49.	A pregnant woman should smoke tobacco if she wants to.		11.4%
64.	The peddler of narcotic drugs should be given a jail sentence.		72%

(Continued on next page)

Table 19. (Continued)

Statement Number	Statement	No. of Sample	Per Cent Strongly Agree-Agree
(1)	(2)	(3)	(4)
73.	Boys should smoke if they want to do so.		29%
98.	A smoker of tobacco should use some form of filter		65%

Statement Number	Statement	No. of Sample	Per Cent Undecided
(1)	(2)	(3)	(4)
	B. Statements with which Sample is Undecided		
		218	
11.	A person should smoke more than twenty cigarettes a day if he wants to.		10%
17.	A pregnant woman should drink alcohol if she so desires.		14%
49.	A pregnant woman should smoke tobacco if she wants to.		17%
64.	The peddler of narcotic drugs should be given a jail sentence.		5%
73.	Boys should smoke if they want to do so.		21%
98.	A smoker of tobacco should use some form of filter.		22%

(Concluded on next page)

Table 19. (Concluded)

Statement Number	Statement	No. of Sample	Per Cent Strongly Disagrees - Disagrees
(1)	(2)	(3)	(4)
	C. Statement with which Sample Disagrees - Strongly Disagrees		
		218	
11.	A person should smoke more than twenty cigarettes a day if he wants to		83%
17.	A pregnant woman should drink alcohol if she so desires.		77%
49.	A pregnant woman should smoke tobacco if she wants to.		70%
64.	The peddler of narcotic drugs should be given a jail sentence.		15%
73.	Boys should smoke if they want to do so.		48%
98.	A smoker of tobacco should use some form of filter.		12%

Although 83 per cent of the respondents disagreed with statement 11, "A person should smoke more than twenty cigarettes a day if he wants to do so," only a total of 48 per cent reported "disagree" with statement 73, "Boys should smoke if they want to do so." Reasons for the difference in responses to the two statements may be due to the lack of agreement among scientists concerning the harmful effect of smoking. The need for wholesome attitudes among high school students

concerning the effects of alcohol, tobacco and drugs is apparent.

The attitudes expressed by the sample concerning pregnant women and their use of alcohol and tobacco are worthy of consideration. Seventy per cent of the respondents disagreed with the statement, "A pregnant woman should drink alcohol if she so desires." Fourteen per cent reported "undecided" and 9 per cent agreed. The attitude expressed by the largest group may have been changed had the respondents known that modern obstetricians claim there is no evidence that moderate smoking or drinking will harm either the fetus or the mother.

The response to statement 64 is of interest. The statement sought to ascertain the attitudes of the sample relative to the peddling of narcotic drugs and reads as follows: "The peddler of narcotic drugs should be given a jail sentence." Forty-six per cent of the group reported "strongly agree" and 26 per cent listed "agree". Five per cent reported "undecided," 5 per cent recorded "disagree" and 10 per cent listed "strongly disagree." The evident need for the development of improved attitudes can be observed. Increased knowledge pertaining to the narcotic problem and its evil effects, could be a contributing factor in changing the attitudes of secondary school youth.

The data in Table 20 shows that the area of Industrial Health provided a degree of less favorable responses. The two following facts appear significant: (1) The percentage range of "undecided" responses was from 3 to 32; (2) "Undecided" was reported by 32 per cent of the

respondents to the two statements, numbers 47 and 83. Statement 47, "Child labor should be permitted by law," revealed that 42 per cent agreed and 26 per cent disagreed. The response to statement 83, "A laborer should be allowed to work under high pressure (as in deep sea diving) as long as he wishes," showed that 55 per cent reported a favorable attitude of disagreement. Thirteen per cent agreed with the statement. The percentage wise spread in this area points out the need for emphasis on practices in Industrial Health in the high school curriculum. Large numbers of high school youth will of necessity be required to earn a living. It therefore appears the function of the school to supply knowledge pertaining to vocational guidance and work practices thus improving attitudes and behavior in this vital area of living.

Table 20 presents a detailed account of responses and variations concerning Industrial Health.

Table 20. Analysis of Responses by Total Sample from Approved Schools of Six Statements on Industrial Health

Statement Number	Statement	No. of Sample	Per Cent Strongly Agree - Agree
(1)	(2)	(3)	(4)
A.	Statements with which Sample Strongly Agrees and Agrees	218	
9.	A worker should lose his wages when he is sick.		3.9%

(Continued on next page)

Table 20. (Continued)

Statement Number	Statement	No. of Sample	Per Cent Strongly Agree - Agree
(1)	(2)	(3)	(4)
47.	Child labor should be permitted by law.		42%
51.	A person should return to work immediately after a serious illness.		1.9%
53.	A man should be hired for a job without being forced to have a medical examination.		12%
54.	Employees should have a recreation program for their workers.		77%
83.	A laborer should be allowed to work under high pressure (as in deep sea diving) as long as he wishes.		13%

Statement Number	Statement	No. of Sample	Per Cent Undecided
(1)	(2)	(3)	(4)
	B. Statements with which Sample is Undecided	218	
9.	A worker should lose his wages when he is sick.		8%
47.	Child labor should be permitted by law.		32%
51.	A person should return to work immediately after a serious illness.		3%

(Concluded on next page)

Table 20. (Concluded)

Statement Number	Statement	No. of Sample	Per Cent Undecided
(1)	(2)	(3)	(4)
53.	A man should be hired for a job without being forced to have a medical examination.		15%
54.	Employees should have a recreation program for their workers.		15%
83.	A laborer should be allowed to work under high pressure (as in deep sea diving) as long as he wishes.		32%

Statement Number	Statement	No. of Sample	Per Cent Disagree Strongly Disagree
(1)	(2)	(3)	(4)
C.	Statements with which Sample Disagrees and Strongly Disagrees	218	
9.	A worker should lose his wages when he is sick.		87%
47.	Child labor should be permitted by law.		26%
51.	A person should return to work immediately after a serious illness.		94%
53.	A man should be hired for a job without being forced to have a medical examination.		71%
54.	Employers should have a recreation program for their workers.		8%
83.	A laborer should be allowed to work under high pressure (as in deep sea diving).		55%

The varied responses in Table 20 give indications of the direction of attitudes of the sample. Further investigations could reveal contributing factors for the selected responses.

The area on Care of the Special Senses and Organs showed the lowest percentage of favorable responses as can be seen in Table 21.

Table 21. Analysis of Responses by Total Sample from Approved Schools of five statements on Care of the Special Senses and Organs.

Statement Number	Statement	No. of Sample	Per Cent Strongly Agree-Agree
(1)	(2)	(3)	(4)
	A. Statements with which Sample Strongly Agrees and Agrees	218	
18.	A person should go to the dentist about once every six months.		76%
22.	A person who is extremely hard of hearing, should wear one of the newer hearing devices.		70%
29.	Diseased adenoids should be left undisturbed.		21%
66.	Doctors should wash the eyes of a newly born baby with a solution to destroy germs.		64%
87.	A child with its first set of teeth should be kept away from the dentist.		22%

(Continued on next page)

Table 21 (Continued)

Statement Number	Statement	No. of Sample	Per Cent Undecided
(1)	(2)	(3)	(4)
	B. Statements with which Sample is Undecided	218	
18.	A person should go to the dentist about once every six months.		11%
22.	A person who is extremely hard of hearing, should wear one of the newer hearing devices.		18%
29.	Diseased adenoids should be left undisturbed.		18%
66.	Doctors should wash the eyes of a newly born baby with a solution to destroy germs.		15%
87.	A child with its first set of teeth should kept away from the dentist.		22%

Statement Number	Statement	No. of Sample	Per Cent Disagree - Strongly Disagree
(1)	(2)	(3)	(4)
	C. Statements with which Sample Disagrees-Strongly Disagrees	218	
18.	A person should go to the dentist about once every six months.		12%
22.	A person who is extremely hard of hearing, should wear one of the newer hearing devices.		9%

(Concluded on next page)

Table 21. (Concluded)

Statement Number	Statement	No. of Sample	Per Cent Disagree-Strongly Disagree
(1)	(2)	(3)	(4)
29.	Diseased adenoids should be left undisturbed.		59%
66.	Doctors should wash the eyes of a newly born baby with a solution to destroy germs.		18%
87.	A child with its first set of teeth should be kept away from the dentist.		56%

Undecided responses ranged from 11 to 22 per cent. Eleven per cent were undecided about statement 18, "A person should go to the dentist about once every six months." Twenty-two per cent indicated "undecided" relative to the following statement 87, "A child with its first set of teeth should be kept away from the dentist." The responses to other statements pertaining to the eyes, ears and adenoids, gave an indication of the need for additional emphasis in this area of health instruction. In the education of youth it should be mandatory that the school develop desirable attitudes toward personal and individual health. Wise and proper care of special senses and organs can assure present and future days of wholesome living.

Causes for responses to the nine selected areas in health and safety education by the sample investigated, are beyond the scope of this study. However, the variations, agreements and disagreements listed may provide a degree of direction for preparing health instruction courses of study and materials for this sample.

Areas and Percentage of Favorable Responses by Total Sample from Non-Approved Schools

Table 22 represents the percentages of favorable responses scored by students from non-approved schools.

Table 22. Areas, Number of Statements and Percentages of Favorable Responses by Total Sample from Non-Approved Schools.

Areas	Number of Questions	Percentage of Favorable Responses
(1)	(2)	(3)
Defense Against Communicable Disease	9	77%
School Health	14	75%
Use of Health Services and Facilities	12	75%
Public Health Practices	14	74%
Family Health	7	74%
Defense Against Accidents	9	74%
Care of the Special Senses and Organs	5	67%
Defense Against Alcohol, Tobacco, and Drugs	6	64%
Industrial Health	6	63%

In general, the percentages of favorable responses from non-approved schools were lower than those found in approved schools. Slight changes were observed in the relative positions of health categories when the types of schools were compared. However, the areas of Defense Against Alcohol, Tobacco and Drugs, Care of the Special Senses and Organs and Industrial Health, remained relatively the same.

This apparent consistency in the expressed attitudes of the students of the total sample suggests consideration of health instruction subject matter for the secondary school level.

Further analysis of data presents information of significance as can be seen in Figure 4.

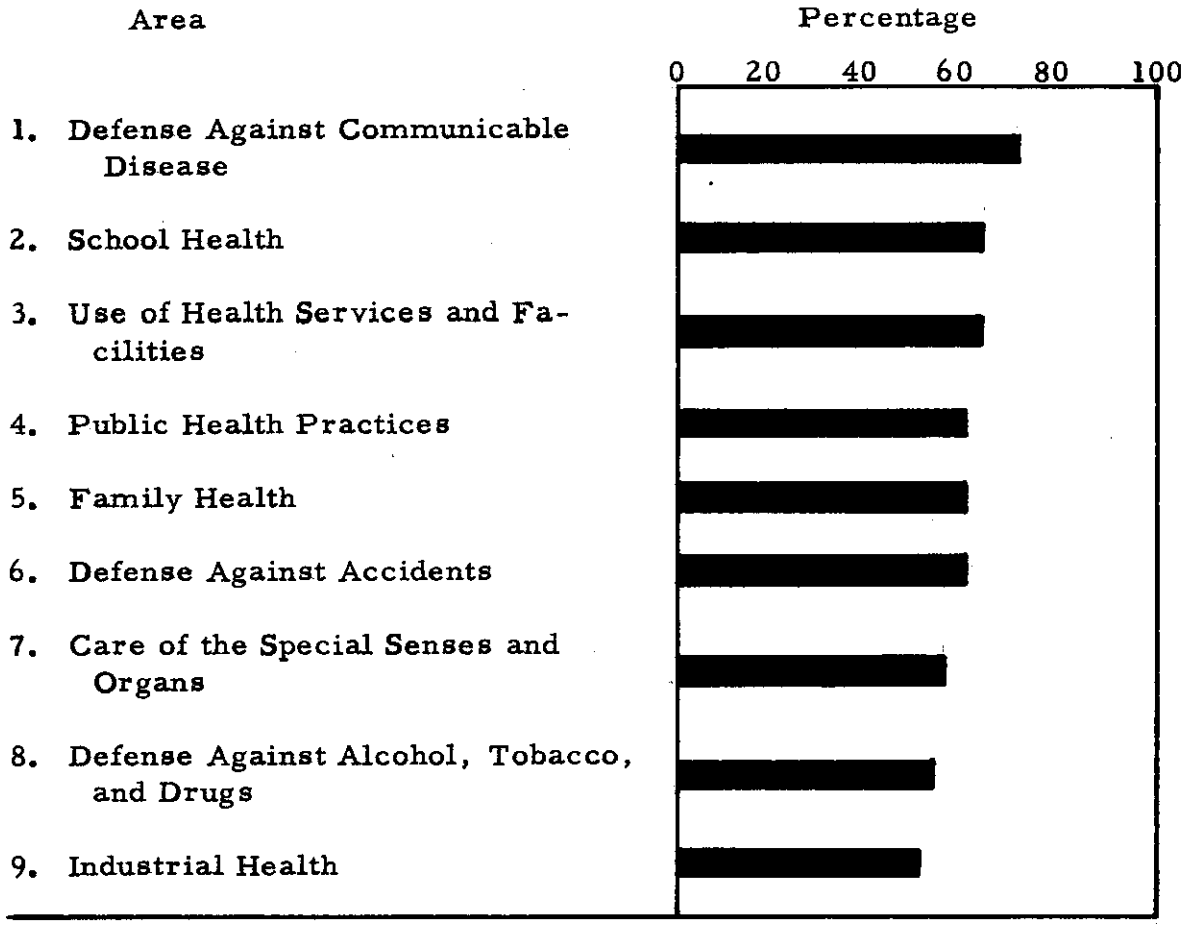

Figure 4. The Percentage of Favorable Responses to Selected Areas of Health and Safety Education by Total Sample from Non-Approved Schools.

Figure 4 presents data relative to the change of positions of health categories as reported by students from non-approved schools. The significant factors appear to be the general reduction in percentage value of all areas and the fixed position of the last three categories, Care of the Sepcial Senses and Organs, Defense Against Alcohol, Tobacco and Drugs and Industrial Health.

Major Health Areas Reported as "Disliked" by Total Sample

Of the sixteen major health areas included in the Student Inquiry Form, 58 per cent of the total respondents reported "disliked" for the following in descending order: Accidents, Communicable Diseases, Alcohol, Tobacco and Drugs, Non-communicable Diseases and Excretion. Although no attempt will be made in this study to ascertain the reasons for the types of responses, the results should have special significance for high school administrators and others charged with the responsibility of preparing and teaching courses of study in health education.

With accidents as the principal cause of death among adolescents, [1] and the increasing problem of alcohol, tobacco and drugs among this segment of the population, concerted efforts by educators are required so that adequate knowledge, desirable habits and attitudes may be achieved by youth for successful growth and development. Granted that scientific

[1] Metropolitan Life Insurance Company, "Health of Teen Agers", Statistical Bulletin, 34:1-4; August, 1953.

advancement has been made relative to communicable diseases, an adequate understanding of the problem by high school youth is necessary if a full and useful life is expected. Teaching materials of interest and high motivational value are needed so that students may seek self realization of essential goals of good living.

Chenoweth and Selkirk comment on this problem in the following manner: [1]

> "An examination of the facts taught needs to be made in order to see what is omitted that should be taught, to relegate to their proper places those things that are of minor importance, and to eliminate the things that are not true. . . . One is inclined to suspect that some things are stressed because of the ease of teaching them and the difficulty of teaching other facts of greater importance. Thus cleanliness is easy to teach, but is not nearly so important as what constitutes active and passive immunization, the reasons for it, the likely duration, etc., which are more difficult to teach."

Moss [2] who conducted a survey to explore attitudes of students concerning high school education experiences found that, "almost without exception, high school health education is looked upon as a bore, a waste of time, poorly taught, a farce, low man on the totem pole." Students reported that teachers did not use interesting methods, were unprepared,

---

[1] Laurence B. Chenoweth and Theodore K. Selkirk, School Health Problems. Appleton-Century-Crofts, Inc., 1953, p. 398.

[2] Bernice Moss, "Health Teaching, A Physical Educator's Responsibility," Journal of Health, Physical Education and Recreation, Vol. 25, Number 9, November 1954.

that classes were held on rainy days, were too large and that subject matter was elementary and repetitious. These considerations are significant and may be basic for the dislike of areas of health education as reported by the sample in this present investigation.

CHAPTER V

SUMMARY

The purpose of this study was to evaluate the attitudes of high school students in the twelfth grade of Florida high schools with respect to selected areas of health and safety education.

The Byrd Health Attitude Scale was administered to 1300 students in 25 schools located in 22 Florida counties covering the entire state. The scales of a sample of 422 students selected at random were scored and an item analysis was made. A tabulation of the percentage of responses to each selected area was also made.

An analysis was made of the Florida high school organization and course of study. State department bulletins, directives and state adopted textbooks were utilized for this operation.

A preliminary health knowledge test was administered to students in a rural school, urban school and a university high school. Statistical treatment of data resulted in obtaining correlation between health knowledge and health attitudes, in observing differences between boys and girls and in recording the differences between respondents from approved and non-approved schools.

A graphic item count and percentages were obtained from the 79 statements comprising the nine selected health and safety areas found in the Byrd Health Attitude Scale. These areas are as follows: Public Health Practices, Use of Health Services and Facilities, School Health, Defenses Against Communicable Diseases, Defenses Against Accidents, Family Health, Industrial Health, Defenses Against Alcohol, Tobacco and Drugs and Care of the Special Senses and Organs.

The reliability of the Byrd Health Attitude Scale was determined by the use of the Kuder-Richardson formula and found to be .98.

CONCLUSIONS

The following conclusions are justified on the basis of the findings of this study:

1. The health attitudes of a selected sample of twelfth grade students in Florida high schools have been evaluated.

2. The Byrd Health Attitude Scale can be used to measure the attitudes of high school students with respect to selected areas of health and safety education.

3. The total score on the Byrd Health Attitude Scale ranged from a low of 200 to a high of 469. Forty per cent of the total group received scores ranging from 400 to 469; twenty-nine per cent of the scores fell between 380 and 399; thirty-one per cent of the scores fell below the 389 - 399 level.

4. No significant differences were found between the mean scores of boys and girls. The mean score for boys was 391.1 while that of girls was 391.0.

5. There was a significant difference between the mean score of respondents from schools approved by the Southern Association of Secondary Schools and Colleges and non-approved schools. Students from non-approved schools obtained a mean score of 387.8 and a standard deviation of 37. Students from approved schools received a mean score of 393.3 and a standard deviation of 38.6.

6. Students from communities in which the median school years completed was over 10 years, showed a mean score of 407.6 on the Byrd Health Attitude Scale. The standard deviation for the group was 31.3. For students from communities in which the median school years completed was less than 10 years, a mean score of 386.8 was observed. The standard deviation was 24.8.

7. The highest percentage of favorable responses by students from approved schools was reported for the area of School Health. High percentages of favorable responses were also reported for the following areas in descending order: Defenses Against Accidents, Use of Health Services and Facilities, Family Health, Public Health Practices, Defenses Against Communicable Diseases. A high percentage of unfavorable responses was found in the areas on Defenses Against Alcohol, Tobacco and Drugs, Industrial Health, and Care of Special Senses and Organs.

8. The highest percentage of favorable responses by students from non-approved schools was reported for the area of Defense Against Communicable Diseases. Percentages of favorable responses in other areas were reported in the following descending order: School Health, Use of Health Services and Facilities, Public Health Practices, Family Health, Defense Against Accidents, Care of Special Senses and Organs, Defense Against Alcohol, Tobacco and Drugs, and Industrial Health.

9. More favorable responses were given by students from approved schools than by those from non-approved schools. Slight differences in

responses existed between boy and girl respondents with girls scoring higher in some areas and boys scoring higher in others.

10. Seventy-three per cent of the respondents came from communities in which the median school years completed was less than the 10th grade level.

11. Thirty-six per cent of the parents were employed in skilled trades, 26 per cent were listed as being unskilled, while 3 per cent reported as serving in professional occupations. Thirty-four per cent either failed to list parental occupations or reported "deceased" or "unemployed."

12. Of the 16 major health areas included in the Student Inquiry Form, 58 per cent of the total respondents reported "disliked" for the following in descending order: Accidents, Communicable Diseases, Alcohol, Tobacco and Drugs, Non-communicable Diseases and Excretion.

13. There is room for the improvement of health attitudes of the boys and girls used in this study.

14. Opportunities are provided for instructors to emphasize teaching and learning experiences in the health and safety areas where the greatest need for such is evident as a result of this investigation.

Limitations of this Study

1. This study is confined to students of one racial group selected at random from twenty-five state accredited high schools located in 22 counties of the state of Florida

2. No attempt has been made to study the origin of attitudes as have been expressed by the respondents.

3. The health attitudes of the sample under consideration have been evaluated by a standardized health attitude scale. Selected statements of this scale appear to be in conflict with modern health concepts.

4. The conclusions drawn should be applied only to the persons selected for this study.

Recommendations for Further Research

1. The health attitudes of a larger sample of Florida secondary school youth should be evaluated using the same instruments.

2. The construction and evaluation of a health attitude scale should be attempted to evaluate the attitudes of secondary youth in such areas as mental health and nutrition.

3. Further attention should be given to the origin of health attitudes and their relationship to behavior with special emphasis to the problem as it affects the secondary school youth of Florida.

APPENDICES AND BIBLIOGRAPHY

Florida Agricultural and Mechanical University

Tallahassee, Florida

GEORGE W. GORE, JR., PRESIDENT

DIRECTOR OF ATHLETICS

APPENDIX A

Letter to Principals

Dear Sir:

As a problem for a doctoral dissertation at Boston University, I am interested in a study which will evaluate the attitudes of senior high school students concerning Health and Safety Education.

As you know, terminal education is a major problem among Florida high school students and I feel that every effort should be made to determine the attitudes of persons in this area who will soon assume responsibilities of parents, citizens and taxpayers.

It is my belief that the findings may be significant enough so that suggestions can be made for curricula organization and toward improvement of our teacher-training program.

I am using an attitude scale which can be checked by most seniors in 30 minutes. My only request of you is to agree to provide the time and supervision necessary to administer it.

It is necessary that I include 1500 students who will come from Florida state accredited schools, listed as to size, type and geographical location. Your school has been selected as one from which the study will be made. No attempt will be made to compare individual schools, so that no school will be embarrassed in any way.

A summary of the final results will be furnished all participating schools.

Respectfully yours,

Oscar A. Moore,
Department of Health and Physical Education
Florida A and M University
Tallahassee, Florida

APPENDIX B

Florida Agricultural and Mechanical University
Tallahassee, Florida

GEORGE W. GORE, JR., PRESIDENT

DIRECTOR OF ATHLETICS

APPENDIX C

Directions to Supervising Teachers

Dear Teacher:

We are anxious to have high school seniors record their present attitudes concerning Health and Safety Education. The results of this study will be used for a doctoral dissertation at Boston University.

Your cooperation in adhering to the following directions will be greatly appreciated.

Oscar A. Moore,
Department of Health and Physical Education
Florida A and M University
Tallahassee, Florida

--((--

Directions:

1. Explain to students that we are anxious to get their honest, independent reactions to the statements of the attitude scale.

2. Have them fill out completely the Inquiry Form attached to the scale.

3. To insure independent thinking, please do not permit students to converse with each other while scoring the scale.

4. After preliminary instructions have been given students by you, kindly refrain from answering questions of students.

5. At the completion of the scoring period, please place scales in large envelope provided and return to principal's office.

6. If a student is absent on the day the scale is scored, it will not be necessary to include that person in the study.

--((--

BYRD HEALTH ATTITUDE SCALE

APPENDIX D

By OLIVER E. BYRD, Ed.D.

Published by STANFORD UNIVERSITY PRESS, Stanford, California

The following scale is not a test of your knowledge. It is meant to measure your attitude ›ward certain health practices, both desirable and undesirable. There is no penalty for "wrong" nswers, as the scale is not to be used for grading purposes. Please be frank and honest in giving our reactions to the health statements on the following pages.

Name..... Age..... Sex.....

chool or college (now attending).....

City..... State.....

ı what grade (or year) of school or college are you now enrolled?.....

our father's occupation?.....

our church or religious affiliation?.....

Were you born in the United States?.....

Were your parents born in the United States: father?..... mother?.....

DIRECTIONS

READ EACH ITEM CAREFULLY AND *AT ONCE* UNDERLINE YOUR REACTION TO THE STATEMENT. Please work rapidly. Indicate the way you honestly *feel* about each statement. BE SURE TO ANSWER EVERY ITEM.

1. **A person should be entirely responsible for his own health.**
   Strongly agree[1] Agree[2] Undecided[3] Disagree[4] Strongly disagree[5]

2. **The government should require all people to be insured for sickness.**
   Strongly agree[5] Agree[4] Undecided[3] Disagree[2] Strongly disagree[1]

3. **The health department should leave all health matters to the local doctors.**
   Strongly agree[1] Agree[2] Undecided[3] Disagree[4] Strongly disagree[5]

4. **All persons with tuberculosis should be registered with the public health department.**
   Strongly agree[5] Agree[4] Undecided[3] Disagree[2] Strongly disagree[1]

5. **Free clinics for the treatment of cancer should be closed.**
   Strongly agree[1] Agree[2] Undecided[3] Disagree[4] Strongly disagree[5]

6. **The United States should co-operate with all nations of the world in controlling disease.**
   Strongly agree[5] Agree[4] Undecided[3] Disagree[2] Strongly disagree[1]

7. **Working mothers should return to work within three weeks after the birth of a child.**
   Strongly agree[1] Agree[2] Undecided[3] Disagree[4] Strongly disagree[5]

8. **In the larger cities there should be health museums for health education of the public.**
   Strongly agree[5] Agree[4] Undecided[3] Disagree[2] Strongly disagree[1]

9. **A worker should lose his wages when he is sick.**
   Strongly agree[1] Agree[2] Undecided[3] Disagree[4] Strongly disagree[5]

10. **The water in public swimming pools should be sterilized.**
    Strongly agree[5] Agree[4] Undecided[3] Disagree[2] Strongly disagree[1]

11. **A person should smoke more than twenty cigarettes a day if he wants to do so.**
    Strongly agree[1] Agree[2] Undecided[3] Disagree[4] Strongly disagree[5]

12. **A person should go to the toilet for a bowel movement at about the same time each day.**
    Strongly agree[5] Agree[4] Undecided[3] Disagree[2] Strongly disagree[1]

13. **Children should be allowed to stay up as late as they please.**
    Strongly agree[1] Agree[2] Undecided[3] Disagree[4] Strongly disagree[5]

14. **People should be vaccinated for smallpox about every seven years.**
    Strongly agree[5] Agree[4] Undecided[3] Disagree[2] Strongly disagree[1]

15. **Children should be allowed to attend the "second" (late) show.**
    Strongly agree[1] Agree[2] Undecided[3] Disagree[4] Strongly disagree[5]

16. A beginning driver should go through a probation period before getting a driver's license.
Strongly agree[5] Agree[4] Undecided[3] Disagree[2] Strongly disagree[1]

17. A pregnant woman should drink alcohol if she so desires.
Strongly agree[1] Agree[2] Undecided[3] Disagree[4] Strongly disagree[5]

18. A person should go to the dentist about once every six months.
Strongly agree[5] Agree[4] Undecided[3] Disagree[2] Strongly disagree[1]

19. There should be no health examination unless a person is sick.
Strongly agree[1] Agree[2] Undecided[3] Disagree[4] Strongly disagree[5]

20. A person should have a regular hour for going to bed.
Strongly agree[5] Agree[4] Undecided[3] Disagree[2] Strongly disagree[1]

21. People who are going to get married should do so without having a health examination.
Strongly agree[1] Agree[2] Undecided[3] Disagree[4] Strongly disagree[5]

22. A person who is extremely hard of hearing should wear one of the newer hearing devices.
Strongly agree[5] Agree[4] Undecided[3] Disagree[2] Strongly disagree[1]

23. Health articles in magazines should always be considered safe health information.
Strongly agree[1] Agree[2] Undecided[3] Disagree[4] Strongly disagree[5]

24. The law should require all dishes in restaurants and soda fountains to be washed in a powerful antiseptic solution.
Strongly agree[5] Agree[4] Undecided[3] Disagree[2] Strongly disagree[1]

25. Raw milk should be served in restaurants and soda fountains.
Strongly agree[1] Agree[2] Undecided[3] Disagree[4] Strongly disagree[5]

26. There should be marriage bureaus to give advice to those who are married.
Strongly agree[5] Agree[4] Undecided[3] Disagree[2] Strongly disagree[1]

27. A person who has been cured of cancer should let nobody know this fact.
Strongly agree[1] Agree[2] Undecided[3] Disagree[4] Strongly disagree[5]

28. There should be more training or education for marriage.
Strongly agree[5] Agree[4] Undecided[3] Disagree[2] Strongly disagree[1]

29. Diseased adenoids should be left undisturbed.
Strongly agree[1] Agree[2] Undecided[3] Disagree[4] Strongly disagree[5]

30. The fire department should inspect homes for fire hazards.
Strongly agree[5] Agree[4] Undecided[3] Disagree[2] Strongly disagree[1]

31. The school should have nothing to do with the health of students.
Strongly agree[1] Agree[2] Undecided[3] Disagree[4] Strongly disagree[5]

32. The schools should teach what foods ought to be eaten.
Strongly agree[5] Agree[4] Undecided[3] Disagree[2] Strongly disagree[1]

33. There should be no school doctors.

Strongly agree[1] Agree[2] Undecided[3] Disagree[4] Strongly disagree[5]

34. Teachers should be taught to know the signs of communicable diseases.

Strongly agree[5] Agree[4] Undecided[3] Disagree[2] Strongly disagree[1]

35. The school should have no right to give a child a medical examination.

Strongly agree[1] Agree[2] Undecided[3] Disagree[4] Strongly disagree[5]

36. Teachers should be tested for tuberculosis before being employed.

Strongly agree[5] Agree[4] Undecided[3] Disagree[2] Strongly disagree[1]

37. Workers in restaurants and soda fountains should be employed without regard to their trainin in sanitation.

Strongly agree[1] Agree[2] Undecided[3] Disagree[4] Strongly disagree[5]

38. Airplanes arriving from foreign countries should be quarantined until inspected and sprayed fo insects.

Strongly agree[5] Agree[4] Undecided[3] Disagree[2] Strongly disagree[1]

39. The health program of the schools should be limited to that of supplying clean rooms for the pupils

Strongly agree[1] Agree[2] Undecided[3] Disagree[4] Strongly disagree[5]

40. The schools should increase their medical services to children.

Strongly agree[5] Agree[4] Undecided[3] Disagree[2] Strongly disagree[1]

41. Families should employ kitchen help without insisting on a medical examination.

Strongly agree[1] Agree[2] Undecided[3] Disagree[4] Strongly disagree[5]

42. After any serious illness a person should have his heart examined.

Strongly agree[5] Agree[4] Undecided[3] Disagree[2] Strongly disagree[1]

43. Families should employ nursemaids without insisting that they have a health examination.

Strongly agree[1] Agree[2] Undecided[3] Disagree[4] Strongly disagree[5]

44. Extreme shortness of breath should lead a person to have a medical examination.

Strongly agree[5] Agree[4] Undecided[3] Disagree[2] Strongly disagree[1]

45. A person should try to cure cancer by dieting (changing his eating habits).

Strongly agree[1] Agree[2] Undecided[3] Disagree[4] Strongly disagree[5]

46. School children should be tested for tuberculosis.

Strongly agree[5] Agree[4] Undecided[3] Disagree[2] Strongly disagree[1]

47. Child labor should be permitted by law.

Strongly agree[1] Agree[2] Undecided[3] Disagree[4] Strongly disagree[5]

48. Any persistent pain should cause a person to have a medical examination.

Strongly agree[5] Agree[4] Undecided[3] Disagree[2] Strongly disagree[1]

49. A pregnant woman should smoke tobacco if she so desires.

Strongly agree[1] Agree[2] Undecided[3] Disagree[4] Strongly disagree[5]

50. The public should be educated to a better selection of food.
Strongly agree[5] Agree[4] Undecided[3] Disagree[2] Strongly disagree[1]

51. A person should return to work immediately after a serious illness.
Strongly agree[1] Agree[2] Undecided[3] Disagree[4] Strongly disagree[5]

52. The public health department should be consulted in any housing program that calls for slum clearance.
Strongly agree[5] Agree[4] Undecided[3] Disagree[2] Strongly disagree[1]

53. A man should be hired for a job without being forced to have a medical examination.
Strongly agree[1] Agree[2] Undecided[3] Disagree[4] Strongly disagree[5]

54. Employers should have a recreation program for their workers.
Strongly agree[5] Agree[4] Undecided[3] Disagree[2] Strongly disagree[1]

55. Compulsory physical education in the schools should be abolished.
Strongly agree[1] Agree[2] Undecided[3] Disagree[4] Strongly disagree[5]

56. Some form of financial assistance should be given to families in which there is tuberculosis.
Strongly agree[5] Agree[4] Undecided[3] Disagree[2] Strongly disagree[1]

57. The schools should make no recommendations to the parents about the health of their children.
Strongly agree[1] Agree[2] Undecided[3] Disagree[4] Strongly disagree[5]

58. Picnic grounds should be supervised by the public health department.
Strongly agree[5] Agree[4] Undecided[3] Disagree[2] Strongly disagree[1]

59. The teacher should pay no attention to the health of the student.
Strongly agree[1] Agree[2] Undecided[3] Disagree[4] Strongly disagree[5]

60. Schools should give instruction in sex hygiene.
Strongly agree[5] Agree[4] Undecided[3] Disagree[2] Strongly disagree[1]

61. A driver should be allowed to pass another automobile going in the same direction up a hill.
Strongly agree[1] Agree[2] Undecided[3] Disagree[4] Strongly disagree[5]

62. Homes should have fire extinguishers ready for use.
Strongly agree[5] Agree[4] Undecided[3] Disagree[2] Strongly disagree[1]

63. A person with mental peculiarities should be examined by a psychiatrist.
Strongly agree[5] Agree[4] Undecided[3] Disagree[2] Strongly disagree[1]

64. The peddler of narcotic drugs should be given a jail sentence.
Strongly agree[5] Agree[4] Undecided[3] Disagree[2] Strongly disagree[1]

65. The urine should be examined at least once a year.
Strongly agree[5] Agree[4] Undecided[3] Disagree[2] Strongly disagree[1]

66. Doctors should wash the eyes of a newly born baby with a solution to destroy germs.
Strongly agree[5] Agree[4] Undecided[3] Disagree[2] Strongly disagree[1]

67. **A baby should have a health examination in its first week of life.**
Strongly agree[5] Agree[4] Undecided[3] Disagree[2] Strongly disagree[1]

68. **A person who has continued indigestion should have a medical examination.**
Strongly agree[5] Agree[4] Undecided[3] Disagree[2] Strongly disagree[1]

69. **A person should examine the exhaust system of his automobile occasionally to see if it has a leak**
Strongly agree[5] Agree[4] Undecided[3] Disagree[2] Strongly disagree[1]

70. **A person should investigate things that make him afraid.**
Strongly agree[5] Agree[4] Undecided[3] Disagree[2] Strongly disagree[1]

71. **A person past fifty years of age needs no health examinations as a regular procedure.**
Strongly agree[1] Agree[2] Undecided[3] Disagree[4] Strongly disagree[5]

72. **There should be a law to make everyone get vaccinated against smallpox.**
Strongly agree[5] Agree[4] Undecided[3] Disagree[2] Strongly disagree[1]

73. **Boys should smoke if they want to do so.**
Strongly agree[1] Agree[2] Undecided[3] Disagree[4] Strongly disagree[5]

74. **People should be vaccinated for protection against as many diseases as possible.**
Strongly agree[5] Agree[4] Undecided[3] Disagree[2] Strongly disagree[1]

75. **A person who has been drinking alcohol should drive an automobile if he wants to do so.**
Strongly agree[1] Agree[2] Undecided[3] Disagree[4] Strongly disagree[5]

76. **A person with a "cold" should go to bed at once.**
Strongly agree[5] Agree[4] Undecided[3] Disagree[2] Strongly disagree[1]

77. **Children should be allowed to play with fireworks.**
Strongly agree[1] Agree[2] Undecided[3] Disagree[4] Strongly disagree[5]

78. **A bottle of milk should be washed before the top is removed and the milk poured.**
Strongly agree[5] Agree[4] Undecided[3] Disagree[2] Strongly disagree[1]

79. **A person with a "cold" should stay away from the doctor.**
Strongly agree[1] Agree[2] Undecided[3] Disagree[4] Strongly disagree[5]

80. **All members of the family should have regular medical examinations even if they are not sick.**
Strongly agree[5] Agree[4] Undecided[3] Disagree[2] Strongly disagree[1]

81. **A person should cure himself without going to any kind of a doctor.**
Strongly agree[1] Agree[2] Undecided[3] Disagree[4] Strongly disagree[5]

82. **State laws should provide that cancer be reported to the public health authorities.**
Strongly agree[5] Agree[4] Undecided[3] Disagree[2] Strongly disagree[1]

83. **A laborer should be allowed to work under high pressures (as in deep-sea diving) as long as he wishes.**
Strongly agree[1] Agree[2] Undecided[3] Disagree[4] Strongly disagree[5]

84. A medical adviser should be allowed to practice medicine only if he has a state license.
Strongly agree[5] Agree[4] Undecided[3] Disagree[2] Strongly disagree[1]

85. A person should sometimes consult a medical adviser who advertises.
Strongly agree[1] Agree[2] Undecided[3] Disagree[4] Strongly disagree[5]

86. A drunken driver should have his license permanently taken away.
Strongly agree[5] Agree[4] Undecided[3] Disagree[2] Strongly disagree[1]

87. A child with its first set of teeth should be kept away from the dentist.
Strongly agree[1] Agree[2] Undecided[3] Disagree[4] Strongly disagree[5]

88. The law should prohibit advertisements of "cancer cures."
Strongly agree[5] Agree[4] Undecided[3] Disagree[2] Strongly disagree[1]

89. Only children should have regular dental examinations.
Strongly agree[1] Agree[2] Undecided[3] Disagree[4] Strongly disagree[5]

90. A complete medical examination should be a requirement for obtaining a driver's license.
Strongly agree[5] Agree[4] Undecided[3] Disagree[2] Strongly disagree[1]

91. About the age of sixteen a person should have a health examination, with special attention to any signs of tuberculosis.
Strongly agree[5] Agree[4] Undecided[3] Disagree[2] Strongly disagree[1]

92. A person should have a health examination at least once a year.
Strongly agree[5] Agree[4] Undecided[3] Disagree[2] Strongly disagree[1]

93. Babies under one year of age should be fed raw milk if the mothers cannot nurse them.
Strongly agree[1] Agree[2] Undecided[3] Disagree[4] Strongly disagree[5]

94. Schools should furnish free lunches to needy and undernourished students.
Strongly agree[5] Agree[4] Undecided[3] Disagree[2] Strongly disagree[1]

95. Mental hospitals should be called insane asylums.
Strongly agree[1] Agree[2] Undecided[3] Disagree[4] Strongly disagree[5]

96. Everybody should be tested for tuberculosis.
Strongly agree[5] Agree[4] Undecided[3] Disagree[2] Strongly disagree[1]

97. It should be against the law to put sugar in an open container in restaurants or fountains.
Strongly agree[5] Agree[4] Undecided[3] Disagree[2] Strongly disagree[1]

98. A smoker of tobacco should use some form of filter.
Strongly agree[5] Agree[4] Undecided[3] Disagree[2] Strongly disagree[1]

99. Health agencies should work independently of each other.
Strongly agree[1] Agree[2] Undecided[3] Disagree[4] Strongly disagree[5]

00. Criminals should be allowed to drive automobiles.
Strongly agree[1] Agree[2] Undecided[3] Disagree[4] Strongly disagree[5]

APPENDIX E

Seventy-nine Statements from Selected Areas of
Health and Safety Education
taken from Byrd Health Attitude Scale

PUBLIC HEALTH PRACTICES

Number

2. The government should require all people to be insured for sickness.

3. The health department should leave all health matters to local doctors.

4. All persons with tuberculosis should be registered with the public health department.

6. The United States should cooperate with all nations of the world in controlling disease.

8. In the larger cities there should be health museums for health education of the public.

10. The water in public swimming pools should be sterilized.

24. The law should require all dishes in restaurants and soda fountains to be washed in a powerful antiseptic solution.

25. Raw milk should be served in restaurants and soda fountains.

37. Workers in restaurants and soda fountains should be employed without regard to their training in sanitation.

52. The public health department should be consulted in any housing program that calls for slum clearance.

58. Picnic grounds should be supervised by the public health department.

82. State laws should provide that cancer be reported to the public health authorities.

(Concluded on next page)

Public Health Practices (Concluded)

Number	
88.	The law should prohibit advertisements of "cancer cures."
97.	It should be against the law to put sugar in an open container in restaurants or fountains.

USE OF HEALTH SERVICES AND FACILITIES

Number	
19.	There should be no health examination unless a person is sick.
48.	Any persistent pain should cause a person to have a medical examination
67.	A baby should have a health examination in its first week of life.
68.	A person who has continued indigestion should have a medical examination.
71.	A person past fifty years of age needs no health examinations as a regular procedure.
81.	A person should cure himself without going to any kind of a doctor.
84.	A medical adviser should be allowed to practice medicine only if he has a state license.
85.	A person should sometimes consult a medical adviser who advertises.
89.	Only children should have regular dental examinations.
91.	About the age of sixteen a person should have a health examination, with special attention to any signs of tuberculosis.
92.	A person should have a health examination at least once a year.
99.	Health agencies should work independently of each other.

SCHOOL HEALTH

Number	
31.	The school should have nothing to do with the health of students.
33.	There should be no school doctors.
34.	Teachers should be taught to know the signs of communicable diseases.
35.	The school should have no right to give a child a medical examination.
39.	The health program of the school should be limited to that of supplying clean rooms for the pupils.
40.	The schools should increase their medical services to children.
46.	School children should be tested for tuberculosis.
55.	Compulsory physical education in the schools should be abolished.
57.	The schools should make no recommendations to the parents about the health of their children.
59.	The teacher should pay no attention to the health of the student.
94.	Schools should furnish free lunches to needy and undernourished students.

DEFENSES AGAINST COMMUNICABLE DISEASES

Number	
14.	People should be vaccinated for smallpox about every seven years.
36.	Teachers should be tested for tuberculosis before being employed.
38.	Airplanes arriving from foreign countries should be quarantined until inspected and sprayed for insects.
56.	Some form of financial assistance should be given to families in which there is tuberculosis.
72.	There should be a law to make everyone get vaccinated against smallpox.
74.	People should be vaccinated for protection against as many diseases as possible.
78.	A bottle of milk should be washed before the top is removed and the milk poured.
79.	A person with a "cold" should go to bed at once.
96.	Everybody should be tested for tuberculosis.

DEFENSES AGAINST ACCIDENTS

Number	
16.	A beginning driver should go through a probation period before getting a driver's license.
30.	The fire department should inspect homes for fire hazards.
61.	A driver should be allowed to pass another automobile going in the same direction up a hill.
62.	Homes should have fire extinguishers ready for use.
69.	A person should examine the exhaust system of his automobile occasionally to see if it has a leak.
75.	A person who has been drinking alcohol should drive an automobile if he wants to do so.
77.	Children should be allowed to play with fireworks.
86.	A drunken driver should have his license permanently taken away.
90.	A complete medical examination should be a requirement for obtaining a driver's license.

FAMILY HEALTH

Number

15. Children should be allowed to attend the "second" show.

21. People who are going to get married should do so without having a medical examination.

26. There should be marriage bureaus to give advice to those who are married.

41. Families should employ kitchen help without insisting on a medical examination.

43. Families should employ nursemaids without insisting that they have a health examination.

45. A person should try to cure cancer by dieting (changing his eating habits).

80. All members of the family should have regular medical examinations even if they are not sick.

---((---

INDUSTRIAL HEALTH

9. A worker should lose his wages when he is sick.

47. Child labor should be permitted by law.

51. A person should return to work immediately after a serious illness.

53. A man should be hired for a job without being forced to have a medical examination.

54. Employers should have a recreation program for their workers.

83. A laborer should be allowed to work under high pressure (as in deep-sea diving) as long as he wishes.

DEFENSES AGAINST ALCOHOL, TOBACCO AND DRUGS

Number

11. A person should smoke more than twenty cigarettes a day if he wants to do so.

17. A pregnant woman should drink alcohol if she so desires.

49. A pregnant woman should smoke tobacco if she so desires.

64. The peddler of narcotic drugs should be given a jail sentence.

73. Boys should smoke if they want to do so.

98. A smoker of tobacco should use some form of filter.

---((---

CARE OF THE SPECIAL SENSES AND ORGANS

18. A person should go to the dentist about once every six months.

22. A person who is extremely hard of hearing should wear one of the newer hearing devices.

29. Diseased adenoids should be left undisturbed.

66. Doctors should wash the eyes of a newly born baby with a solution to destroy germs.

87. A child with its first set of teeth should be kept away from the dentist.

BIBLIOGRAPHY

1. Allport, Gordon W., "Attitudes", A Handbook of Social Psychology, (Worcester, Massachusetts), Clark University, 1935.

2. Anderson, Theresa W., "The Attitudes of High School Girls Toward Physical Activities," Research Quarterly, December, 1934, 5:49-61.

3. Baker, James F., The Construction and Evaluation of a Test of Critical Thinking in Emotional Situations, Unpublished Doctoral Dissertation, Boston University, 1950.

4. Billett, Roy O., Administration and Supervision, Bulletin 1932, National Survey of Secondary Education, Monograph Number 11, United States Office of Education, Washington, D. C.

5. Brinegar, Harold F., The Measurement of Attitudes of High School Students Toward Their Schools, Unpublished Doctoral Dissertation, Indiana University, 1952.

6. Brueckner, Leo J., and Ernest O. Melby, Diagnostic and Remedial Teaching, Houghton-Mifflin Company, Boston, 1931.

7. Byrd, Oliver E., The Study and Measurement of Health Attitudes, Unpublished Doctoral Dissertation, Stanford University, 1940.

8. Byrd, Oliver E., "Health Problems of Significance for Course and Curriculum Construction," Research Quarterly, 2:3-10, March 1950.

9. Cairns, Laura, A Scientific Basis for Health Instruction in Public Schools, University of California Publications in Education, Volume 2, Number 5, University of California Press, 1929.

10. Capra, James, A Study of the Attitudes of Parents Toward Current Educational Practices in Elementary Schools, and some Influencing Factors, Unpublished Doctoral Dissertation, Boston University, 1955.

11. Carr, Martha G., Relation Between Physical Education and Selected Attitudes Expressed by High School Freshman Girls, Unpublished Doctoral Dissertation, Indiana University, 1944.

12. Chenoweth, Laurence B., and Theodore K. Selkirk, School Health Problems, Appleton-Century-Crofts, Inc., 1953.

13. Dunne, James F., Jr., Opinions of the Seniors at the Dedham High School on Educational Problems, Unpublished Master's Thesis, Boston University, 1953.

14. Dzenowaigis, J. G., A Determination of the Prevalence of Certain Harmful Health and Safety Misconceptions Among Fifth and Sixth Grade School Children, Unpublished Doctoral Dissertation, Boston University, 1951.

15. Ervin, Richard W., Amicus Curia, Brief of the Attorney General of Florida, October 1954.

16. Frome, Allan, "The Use of Certain Qualitative Methods of Attitude Research," S. P. SS I Bulletin, 13:429-59, 1941.

17. Grout, Ruth E., Health Teaching in Schools, W. B. Saunders Company, Philadelphia, 1953.

18. Harnly, Paul W., The Attitude of High School Seniors Toward Certain Aspects of Education, Unpublished Doctoral Dissertation, Stanford University, 1938.

19. Irwin, Leslie W., and Wesley M. Staton, "A Determination of Fundamental Concepts of Healthful Living and Their Relative Importance for General Education at the Secondary Level," Research Quarterly, 22:3-27, March 1951.

20. Jones, Joseph H., "A Comparison of Health Knowledge and Health Instruction at the Sixth Grade Level in Certain Rural and Urban Schools," Research Quarterly, Volume 6, Number 2, May 1935.

21. Kershaw, Ernest C., The Construction and Evaluation of a Health Vocabulary Test for Grades Four, Five and Six, Unpublished Doctoral Dissertation, Boston University, 1955.

22. Larson, Leonard A., and Rachel D. Yocum, Measurement and Evaluation in Physical, Health and Recreation Education, St. Louis, The C. V. Mosby Company, 1951.

23. Linquist, E. F., A First Course of Statistics, Boston, Houghton-Mifflin Company, 1942.

24. Mayer, Walter E., A Study of Consistency of Attitudes of High School Seniors, Unpublished Doctoral Dissertation, University of Pittsburgh, 1939.

25. McNemar, Quinn, "Opinion-Attitude Methodology," Psychological Bulletin, 8:23-34, July, 1946.

26. Metropolitan Life Insurance Company, "Health of Teen Agers," Statistical Bulletin, 34: 1-4, August, 1953.

27. Moore, Beverly Y., "The Attitudes of College Women Toward Physical Activity as a Means of Recreation," Research Quarterly, 12:720-25.

28. Moss, Bernice, "Health Teaching, A Physical Educator's Responsibility," Journal of Health, Physical Education and Recreation, Volume 25, Number 9, November, 1954.

29. Ragland, George Rufus, Jr., Attitudes of High School Seniors in a Number of Selected Communities Toward Marriage, Sex and Parenthood as Correlated with Standard of Living and Subsequent Enrollment or Non-enrollment in College, Unpublished Doctoral Dissertation, State University of Iowa, 1953.

30. Remmers, Herman H., and Naomi Weltman, "Attitudes, Interrelationship of Youth, their Parents, and their Attitudes," Journal of Social Psychology, 26:24, August 1947.

31. Remmers, Herman H., Introduction to Opinion and Attitude Measurement, New York: Harper and Brothers, 1954.

32. Rhoton, Paul, Health Misconceptions of Prospective Teachers, Penn State Studies in Education, Number 5, The Nittany Printing and Publishing Company, Pennsylvania State College, 1932.

33. Salt, Benton E., A Study of the Relative Prevalence of Certain Health Misconceptions and Superstitions as Subscribed to by Boys and Girls in Florida Public Schools, Unpublished Doctoral Dissertation, New York University, 1936.

34. Scott, Pheobe Martha, "Attitudes Toward Athletic Competition in Elementary Schools," Research Quarterly, 24: 352-361, 1953.

35. Smith, E. R., and R. W. Tyler, Appraising and Recording Student Progress, New York: Harper and Brothers, 1943.

36. Southworth, W. H., J. Latimer and C. E. Turner, "A Study of the Health Practices, Knowledge, Attitudes and Interests of High School Pupils," Research Quarterly, 15:118-136, May 1944.

37. State Department of Education, Bulletin 10A, Suggested Program of Study for the Florida Secondary Schools, September 1952.

38. State Department of Education, Florida School Bulletin, Volume 16, Number 4, June 1954.

39. State Department of Education, Florida Educational Directory, October 1953.

40. Strang, Ruth M., and Dean F. Smiley, The Role of the Teacher in Health Education, New York: The MacMillan Company, 1942.

41. Stuart, James L., A Scale for Determining the Attitudes of High School Business Education Students Toward Certain Aspects of Office Work, Unpublished Doctoral Dissertation, Ohio State University, 1952.

42. Thurstone, L. L., "Attitudes Can Be Measured," American Journal of Sociology, 33: 529-54, 1928.

43. Turner, C. E., School Health and Health Education, St. Louis: The C. V. Mosby Company, 1952.

44. Sliepcevich, Elena M., "Problems in Health Teaching," Journal of Health, Physical Education and Recreation, Volume 30, Number 7, September 1952.

45. Starr, Helen M., "Health Informed or Health Educated," Journal of Health, Physical Education and Recreation, Volume 20, Number 8, September 1954.

46. Staton, Wesley M., "The Adolescent: His Physical Growth and Health," Review of Educational Research, Volume 24, Number 1, February, 1952.

47. U. S. Department of Commerce, Census of Population: 1950, Volume 2, Characteristics of the Population, Part 10, Florida.

48. Van Bibber, Edward George, The Development of a Scale to Measure Leadership Attitudes of College Athletes, Unpublished Doctoral Dissertation, Boston University, 1953.

49. Walter, Otis M., "The Improvement of Attitude Research," Journal of Social Psychology, 33: 143-46, February, 1951.

50. Wear, Carlos, The Evaluation of Attitudes Toward Physical Education as an Activity Course, Unpublished Doctoral Dissertation, University of Nebraska, 1951.

51. Yancey, Maude J., "Teachers Need Health Facts," Journal of Health, Physical Education and Recreation, Volume 25, Number 10, December 1954.