ATTITUDES, PERCEPTIONS, AND PERSONAL PROBLEMS OF THREE GROUPS OF HIGH SCHOOL STUDENTS

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The problem of the study was to compare three groups of high school seniors—college preparatory, vocational preparatory, and general diploma students—in scholastic achievement, attitudes, and types of personal problems.

One hundred seventy-two students attending a comprehensive, Fort Worth high school were randomly selected. The *Purdue Master Attitude Scales* and the *Mooney Problem Check List* were administered. Attitudes toward 1) high school, 2) required subjects in the curriculum, 3) free public secondary education, and 4) busing to achieve racial integration were measured. The eleven problem areas of the *Mooney Problem Check List* were also studied. Analysis of variance was used to determine if the groups differed significantly. Where such differences existed, the Tukey test was used to determine where the variance occurred. The .05 level was designated as the point of rejection of the hypotheses.

Conclusions based upon the findings were:

1. Regardless of course of study, high school students had much in common. Vocational preparatory students differed from college preparatory and general diploma students more
2. Current curriculum requirements did not seem to be appropriate for all students. The required curriculum seemed more appropriate for college preparatory than for vocational preparatory students. It also seemed more appropriate for females than for males.

3. It was not uncommon for students to have unfavorable attitudes toward some required courses but have favorable attitudes toward school in general. Therefore, variables other than required courses probably influence their attitude.

4. Problems related to the three most prevalent areas—namely, 1) the future: vocational and educational, 2) courtship, sex and marriage, and 3) home and family—indicated a concern for the uncertainties of a complex society in which peer and inter-personal relations were very important.

Implications and recommendations formulated were

1. High school provides a meeting ground for students who will pursue different post-graduate plans. Vocational preparatory students may have somewhat different needs than other students, but the common needs are being met successfully by the comprehensive high school. Evidence seems to support the contention that the needs of the students can be met within the structure of the comprehensive high school.

2. Attitudes appear to affect the degree of cognitive learning that takes place in the classroom. School personnel need to determine and consider the attitudes of students
regarding subject matter areas and co-curricular activities in curriculum planning. It seems that school districts should place priority on obtaining this information for planning.

3. For students who have serious concerns about their futures and interpersonal relations, it is recommended that units of study in these areas may be helpful in allowing them an opportunity to better understand themselves and others in relation to today's social environment.
ATTITUDES, PERCEPTIONS AND PERSONAL PROBLEMS
OF THREE GROUPS OF HIGH SCHOOL SENIORS

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CHAPTER I

INTRODUCTION

The decade of the sixties was one of rapid and extensive changes in society. High school students have been affected by these changes. Research is needed to measure the attitudes, plans, and perceptions of the young people of the seventies. The personal problems that plague this sizable portion of our population need to be studied in order for understanding and satisfactory solutions to be gained.

The 1970 census figures showed that 14.6 million students attend high schools in grades nine through twelve (20).

For the first time in history high school seniors have been able to register and vote. Glatthorn wrote, "there is no doubt that today's high school teachers and administrators are dealing with a new breed of student, who is much more disposed to speak out about school, national, and world affairs than were the students of previous generations" (9, p. 10).

Are our schools changing to meet the needs of today's youth? Evans believes not. He stated, "... junior high school education, and college preparatory education in high school have combined to prepare more people better for college than any system at any other time or place. Unfortunately, this education does not meet the needs of all or even a majority of the students who attend school" (7, p. 20).
The comprehensive high schools of today are made up of students with common as well as specific goals. A common goal is graduation; a specific goal is to prepare oneself for further study at college level. Yet another specific goal is to prepare oneself to enter the labor field upon graduation. Research is needed to better understand these children of an age of Cold War, affluence, and television.

Statement of the Problem

The problem of this study was to compare three groups of high school seniors, classified as College Preparatory students, Vocational Preparatory students, and General Diploma students, in the areas of scholastic achievement, attitudes, and types of personal problems.

Purposes of the Study

The purposes of this study were 1) to discover the degree of satisfaction with school and determine if some groups of students are more satisfied than others; 2) to identify the areas of the curriculum that seem irrelevant to students and explore the possibility of curriculum change in view of these data; 3) to identify the areas of the curriculum toward which students hold negative attitudes; 4) to identify the areas of personal problems of most concern to students; and 5) to provide data that may be helpful to teachers, principals, counselors, and curriculum leaders in planning for better school experiences.
Hypotheses

The following hypotheses were tested by statistical analysis of data:

I. There will be significant differences among the three groups, College Preparatory, Vocational Preparatory, and General Diploma students, with respect to the following variables as measured by the Purdue Master Attitude Scales (PMAS):

   a. Attitudes toward high school.
   b. Attitudes toward required courses in the curriculum.
   c. Attitudes toward free public secondary education.
   d. Attitudes toward the social action of busing to achieve racial integration.

II. The attitudes of the male students in the study will differ significantly from the attitudes of the female students in the study with respect to the four variables stated in Hypothesis I.

III. There will be significant differences among the College Preparatory, Vocational Preparatory, and General Diploma groups with respect to the frequencies in which the types of personal problems are checked in the following areas as found in the Mooney Problem Check List (PCL):

   a. Health and physical development
   b. Finances, living conditions, and employment
   c. Social and recreational activities
   d. Social-psychological relations
e. Personal-psychological relations
f. Courtship, sex, and marriage
g. Home and family
h. Morals and religion
i. Adjustment to school work
j. The future: vocational and educational
k. Curriculum and teaching procedures.

IV. The frequencies of the types of personal problems checked by the males in the study will differ significantly from those checked by the females in the study with respect to the eleven variables listed in Hypothesis III.

V. The attitudes of the males in the college Preparatory group will differ significantly from the attitudes of the females in that group on the variables stated in Hypothesis I.

VI. The attitudes of the males in the Vocational Preparatory group will differ significantly from the attitudes of the females in that group on the variables stated in Hypothesis I.

VII. The attitudes of the males in the General Diploma group will differ significantly from the attitudes of the females in that group on the variables stated in Hypothesis I.

VIII. The frequencies of the types of personal problems checked by the males in the College Preparatory group will differ significantly from those checked by the females in that group with respect to the eleven variables stated in...
IX. The frequencies of the types of personal problems checked by the males in the Vocational Preparatory group will differ significantly from those checked by the females in that group on the variables stated in Hypothesis III.

X. The frequencies of the types of personal problems checked by the males in the General Diploma group will differ significantly from those checked by the females in that group on the variables stated in Hypothesis III.

Background and Significance of the Study

There have been numerous studies of the gifted student, the underachiever, the delinquent student, and many other student sub-groups. Frequently these studies deal with data not obtained directly from the students being studied. Such studies present data that are interesting and informative and do have some merit. However it was the actual self reports of the high school students that were important in this study. Walsh (21) noted that students' opinions obtained by questionnaires were valid in the study of youth.

Rice and Banks (15) found that the gifted students who responded to their questionnaire were generally satisfied with their secondary school educations. However, other data indicated that students felt their needs were not met by their schools. Cawelti cited a 1960 study by Flanagan in which it was found that 53 per cent of the boys surveyed, and 37 per cent of the girls reported that lack of interest in
school plagued them at least half the time. Moreover, by the
time these students became seniors, over 70 per cent indicated
they were frequently indifferent or dreaded going to school.
In making a plea for research to discover what students them-
selves think of their school program, Cawelti stated, "A
school ought not to guess about the impact of its standards
on students. It ought to find out" (1, p. 19).

Traditionally the American high school has stressed a
college-preparatory curriculum. It is on this area that sec-
ondary education still places great emphasis. However, not
all students need, want, or can profit from a college-pre-
paratory curriculum. Evans notes that two other programs
are open, the vocational curriculum and the general curricu-

lum. "The vocational curriculum is of uneven quality, ranging
from superb to atrocious, and in almost all schools it rejects
the students who need its help" (7, p. 21). He went on to say
that the most inefficient program was the general curriculum,
which enrolls castoffs from the other two plus those students
not committed to college or to an occupational subject taught
in the vocational curriculum. Evans had two explanations for
the state of the secondary curriculum: one, the public has
demanded strong college-preparatory programs; and two,
educational theorists have called for uniformity of programs
with emphasis on educational needs of all students. He con-
cludes that improving the quality of vocational education and
convincing the theorists that occupational education is desirable are necessary to meet the needs of students.

Criticizing the school as vigorously as Evans but from a different perspective was Kaplan (12). She expressed concern about the failure of most high school students to seek deeper than surface applications of their curriculum. She wrote that students, nurtured too long on *Of Mice and Men* and *To Kill A Mockingbird*, could not make the transition to more demanding works of such authors as James, Emerson, and Thoreau. Because the student has been sheltered from other attitudes toward life due to ability grouping or tracking, and because the curriculum rarely has forced him to extend himself, the student finds himself severely limited in his ability to experience life in its diverse expressions, she concluded.

Attempts have been made not only to find out the problems of high school students but to take corrective action. The superintendent of schools in Cincinnati, in response to militant high school students' demands, appointed among others, a Polls Committee, to survey the problems. Jacobs (11) noted three factors that affect the results of the committee's data. They were racial tension, youth, and the modern urban environment. It was found that the school could and should try to reduce racial tension. The survey showed that youth had a more liberal view than adults and desired to tackle controversial issues more directly. Reactions to the psychological pressures from living in a large urban center were seen in such
ways as a desire of students to have more voice in school affairs and a desire to increase the feeling of mutual respect between students and faculty. Jacobs also noted that differences in viewpoint were quite evident.

When asked "What is wrong with Chicago Public Schools, particularly secondary schools?" Spillman (18) found that many students expressed a need for relevance of the schools to their lives.

Noting the need for better communication between students and faculty, Ringkamp (16) discussed two methods, brainstorming and random sampling. From these procedures, it was learned that students favored changes in both the required curriculum and extracurricular activities. The students and faculty proposed ways in which the desired changes could be implemented.

Silluzio (17) studied the effect of flexible scheduling, varying group size, and modified grading on the attitudes of high school students. He found no significant difference in attitude toward school between the experimental and control groups but noted that in the experimental group attitudes toward peers was more favorable. It is interesting in light of Redl's (14) work that he found boys' attitudes toward teachers were significantly more favorable than were the attitudes of girls in the total school population.

In an interesting study Hartley and Hoy (10) tested the hypothesis that the more open the climate of high schools the
less the sense of alienation of high school students. They confirmed the hypothesis but concluded that the variables were complex and related to still other variables.

Accelerated, regular, special, and control groups were studied by Weiner and Weiner (22) to determine the relationships among ability grouping, attitudes toward school, and self-concept. They found, in nineteen of twenty analyses of variance, no differences. They suggested that other factors, such as effectiveness of individual teachers, may have more effect on attitudes toward school than grouping.

Moore studied the relationship between self-concept and attitudes toward mathematics and found a positive relationship in regard to achievement in the areas of arithmetical computation, concepts, and application. "The most reasonable position is to infer a reciprocal cause-effect relationship of self-concept, attitude toward mathematics, and arithmetical achievement," he noted (13, p. 98).

Inner-city Negro and Caucasian eighth and ninth graders were compared by Douglas (5). He found differences along these lines: Negro youth expressed more favorable attitudes toward their families and some aspects of education than did their white peers. Negroes felt they should discuss personal problems with parents more than white students did. Douglas explained this finding by suggesting that survival for deprived and economically segregated Negroes often requires a great degree of family sharing, oneness and mutual concern.
This has been called the age of anxiety, and high school students are not immune from the problems facing all segments of society. Coleman (2) contended the situation could be remedied, at least in part, by outlawing practices currently barring young people from productive activity in many areas. He suggested that minimum wage laws and union-imposed barriers against the young be relaxed.

Many teenagers are tormented by terrors they deem private and personal, according to Ginott (8). They do not know that their problems and doubts are universal. Personal problems rob young people of much psychic energy that could be put to better use. The student who is fighting unresolved feelings about peer relations, family financial straits, or questions of morality is not able to devote his full attention to the academic task at hand. Only as these problems are identified and dealt with will the high school student be able to achieve at his potential.

Cronbach wrote, "The Mooney Problem Check List is of considerable value because it draws attention to specific concerns the client is ready to talk about and wants help with" (4, p. 487). The wide use of this instrument by schools and clinics supports this statement.

Attitudes are not directly observable phenomena. Their existence must be inferred from verbal and nonverbal behavior. One infers that a student holds a favorable attitude toward his school if he speaks positively of it.
supports its programs by his presence and enthusiasm. One infers that a man holds a negative attitude toward school integration if he withdraws his child from a school in which minority children are enrolled and places him in a one race, private school.

Summers (19) wrote that by far the most frequently used method of securing material from which to make inferences about an attitude is to ask an individual to reveal, either in his own words or through acceptance or rejection of standardized items, his beliefs about an object that promotes reactions in his attitude. The basis for inference is clear, he continues, in that an individual's attitude toward an object is indicated by his beliefs, feelings, and action orientation toward it.

The time and effort required to construct a scale to measure attitudes toward any psychological object is so great that it would be impossible to build scales for all significant attitude objects. The Purdue Master Attitude Scales were devised to overcome this difficulty to some extent. This was done by developing generalized or master attitude scales which can be used to measure attitudes toward any one of a class of attitude objects. Commins, reviewing in Buros (3), wrote that as a research technique the PMAS offered definite promise. He further stated the scales have shown almost perfect validity against Thurstone's specific scales, with which they correlate highly in differentiating among attitudes known to differ among various groups.
Definition of Terms

For the purpose of this study, it was necessary to define the following terms:

**College Preparatory Group**: That group of students who planned their high school course of study with the intent of preparing themselves for college.

**Vocational Preparatory Group**: That group of students who planned their high school course of study with the intent of preparing themselves to go to work upon graduation.

**General Diploma Group**: That group of students who neither planned for college nor vocational pursuits but took general courses in order to receive a high school diploma.

**Plan for Graduation**: The four year plan of courses to be taken to earn the twenty units needed for graduation. The Plan is filled out in the eighth grade but may be changed with school and parental approval.

**EGIS Planning Guide**: The profile sheet accompanying the booklet Looking Ahead, provided by Educational Guidance Information System, for high school juniors to help them plan their futures.

Limitations

This study had the following limitations:

1. Data were obtained from one comprehensive high school located in a large city in the Southwest. The responses of a
total of 172 senior students provided the data studied. The population was limited to seniors because their courses of study had been determined, they were believed to be more familiar with the entire school structure, and they had experienced a wider range of course offerings.

2. The students in the study were limited to those who had a minimum of seven semesters of high school experience.

3. Inclusion in the sample was on a voluntary basis in that after a student had been selected at random to participate he was given the option of declining.

Assumptions

In this study the following assumptions were made:

1. The student population used in the study was representative of high school seniors in the entire school system.

2. The students would answer the instruments honestly and in good faith.

3. The necessary data could be secured through the instruments selected for use in the study.

Procedure for Data Collection

The literature was surveyed in order to obtain a greater understanding of the problem. A comprehensive high school was selected. A randomized sample of the entire senior class of the school was drawn to participate in the study. Cooperation of the faculty and staff was secured and two dates were determined for administering the Purdue Master Attitude Scales
and the Mooney Problem Check List. In addition to scores from
these two instruments, grade-point averages and ages were
computed to signify differences among the three groups and
between the male and female students.

Treatment of Data

Two-dimensional analysis of variance was used to test
the differences among the means of the groups on the Purdue
Master Attitude Scales, the Mooney Problem Check List, the
grade-point averages, and ages. The Computer Center of North
Texas State University processed the data. The .05 level was
designated as the point at which statistical significance
would be established. Where significant \( F \) ratios were
found, Tukey's (6) test was applied to determine where the
variance occurred. Tables were prepared, and the data are
discussed in Chapter IV. Conclusions and recommendations are
presented in Chapter V.
CHAPTER BIBLIOGRAPHY


CHAPTER II

SURVEY OF THE LITERATURE

Introduction

This chapter reviews some of the research studies involving the attitudes and problems of adolescents and presents representative studies using the Purdue Master Attitude Scales (PMAS) and the Mooney Problem Check List (PCL). The investigation of the literature is divided into 1) a discussion of attitudes and attitude studies of a general nature, 2) some research studies using the PMAS, 3) a discussion of personal problems and related studies, and 4) presentation of research studies related to the PCL.

Like most abstract terms, attitude has several different meanings. Derived from the Latin aptus, one definition has to do with fitness or adaptedness, connoting a subjective or mental state of preparation for action. In the field of art, the term came to mean the posture of a figure in statuary or painting. In the field of social science, educators, psychologists, and sociologists have attempted to clarify the origin and nature of attitudes. Many authorities are agreed that "... attitudes are learned and implicit and they are inferred states of the organism that are probably acquired in much the same manner that other internal learned activity is acquired," according to Osgood, Suci, and Tannenbaum (51).
The term problem is derived from the Latin *problema*, meaning anything thrown forward such as a question proposed for solution. Another meaning involves a matter concerning difficulty. Ginott (29) maintained that one teenager pin-pointed the irony of modern youth when he wrote to the *New York Times*: "As a nineteen year old college student, I face the possibility of getting killed in a war. As an urban dweller, I face getting killed in riots. I face getting killed by a mad gunman. I face getting annihilated in a nuclear holocaust. Does the American Cancer Society seriously expect me to worry about the danger of smoking?" There is reason to believe that the youth of today face serious problems and are cynical in attitude.

Attitudes and Attitude Studies

In an earlier period when mentalistic points of view were common among psychologists, attitudes were defined in keeping with the prevailing mode. Today most definitions of attitude no longer treat the term from a mentalistic set, but rather, as Green (32) noted, definitions of attitudes now consider them as latent variables used to describe consistency among responses to a specified set of stimuli. Thurstone used the term attitude to mean "... the sum total of a man's inclinations and feelings, prejudice or bias, preconcieved notions, ideas, fears, threats and convictions about any specified topic," (66, p. 128). Opinion, according to Thurstone, was a verbal expression of attitude.
Newcomb proposed several succinct definitions of attitude:
"An attitude is the individual's organization of psychological processes, as inferred by his behavior, with respect to some aspect of the world which he distinguishes from other aspects," (48, p. 22). He went on to say, "An attitude is a mental and neural state of readiness, organized through experience, exerting a directive or dynamic influence upon the individual's response to all objects and situations with which it is related," (48, p. 23). And lastly, Newcomb noted that "An attitude can be defined as an enduring organization of motivational, emotional, perceptual, and cognitive processes with respect to some aspect of the individual's world," (48, p. 23).

In a related vein, Ross broadly defined attitudes as those mental structures which organize and evaluate information (56, p. 279). Belief, bias, doctrine, faith, ideology, judgment, opinion, and value are components of the construct "attitude" as defined by Cooper and McGaugh (14).

Doob (20) stated that an attitude is an implicit response that is anticipatory and mediating in reference to patterns of overt responses. It is evoked by a variety of stimulus patterns and is considered to be socially significant.

In suggesting the importance of the concept "attitude" Allport wrote:

The attitude unit has been the primary building stone in social psychology. It has of course, had many critics. Especially in recent years, learning theorists, field theorists, and phenomenologists have attempted to dislodge
it. But it is questionable whether their combined efforts can do more than refine the concept for future use. Social Behavior reflects so much organization, that the doctrine of attitude is necessary. Without some such concept, social psychologists could not work in the fields of public opinion, institutional behavior, or national character; nor could they characterize the mental organization of social man. The term itself may not be indespensible, but what it stands for is (3, p. 20).

There have been many attitude studies and the ones discussed here are intended to be representative rather than inclusive. Meeker attempted to measure attitudes and value changes over a nine-month period in selected humanities and human relations courses. The subjects were high school seniors. He concludes that the reaction of the humanities group to the concepts of ballet, architecture, theater, and music needs further research. "It is possible that students react negatively when pleasurable aspects of their everyday lives are confronted with academic examination. Ballet, architecture, theater, and music seem to be among these pleasurable aspects," he contended (45, p. 473). Meeker noted that the data revealed attitude and value change but that the changes could not be described as being a result of the humanities and human relations courses. Rather, the importance of humanities courses in the public schools may lie more appropriately in the new way of viewing instruction.

In a population of 258 high school juniors, Diedrich and Jackson (19) found no significant relation between their evaluation of school experiences and their scores on standardized
achievement tests and teacher's grades. The teacher's rating revealed an obvious positive bias in favor of the girls. On the satisfied-dissatisfied basis, teachers rated satisfied students as less impulsive and more responsible than average and dissatisfied students.

Carlin and Hartzog (12) studied the effect of participation in the "in-school" Neighborhood Youth Corps program upon the school behaviors and attitudes of tenth, eleventh, and twelfth grade students. The subjects were Mexican-American and black students in four San Diego high schools. The results of the study indicated that students participating in the NYC program did not differ from the control group in school attendance, attitudes toward school, future, self, others, "things in general," and citizenship grade-point average. Participation did have a positive effect in causing a significant reduction in disciplinary referrals but it had a negative effect on scholarship grade-point average.

Attitudes are in the affective domain of Bloom's taxonomy and are considered more difficult to teach and evaluate. Yet the need is there, as indicated by Winn (73). He contended that by the time the young citizen graduates from high school there must be implanted a knowledge of and a dedication to freedom that goes far beyond empty catch phrases and lofty slogans. The test lies, he continued, not in whether the citizen can pledge allegiance or recite quotations, but in how well he can focus all that is known and felt about freedom in
a meaningful way. He cited as an example the fact that the subjects supported the concept of freedom of speech in abstract cases 85 per cent of the time, but only supported freedom of speech 39 per cent in concrete situations. Thus it would seem that the students cognitively supported freedom of speech but did not support the concept at the affective level.

Educators are concerned with the affective as well as the cognitive development. There are, however, still too many teachers who give lip service to this concept but, in reality, are concerned solely with the students' cognitive development. Moore (48) noted that evidence suggested that a child's cognitive learning is proportionately related to the degree to which he is affectively inclined to learn. He went on to say that the constant association of negative attitudes with poor achievement and positive attitudes with high achievement should be evidence to teachers that attitudes are important in their daily class situations. Moore's contention was supported by Bradley and Earp (9), who wrote that the way a student felt about a subject, whether he was enthusiastic or passive, was most important in determining how great his achievement would be.

An example of how the cognitive and affective can be combined was offered by Callaghan (11). He reported that a comprehensive high school developed a program in which all history courses were taught in twelve units, each covering
nine weeks in time. Students were required to choose four each year as a minimum requirement for one credit. They were allowed to choose all twelve for three credits. Prior to the flexible content, many students did not have positive attitudes toward social studies. Improvement was noted after the new program went into effect.

Schwartz (61) studied the attitudes, sex knowledge, and sources of sex information of eighty-seven lower-class ninth grade boys. He discovered that films were the main formal source of sex education, and that these were usually shown in health classes. The peer group was the main source of information at the informal level. The group's attitudes toward sexual behavior were seen as permissive, but the double standard was strongly supported.

In a population of 398 high school seniors, Osborn (50) presented data to support his hypothesis that students tend to achieve, and to have attitudes, aspirations, and expectations consistent with the educational level of their same-sex parent.

Devine (18) studied attitudes toward programmed materials. He found that attitudes toward programmed materials were not significantly decreased by using these materials for the duration of the year if the teacher involved was an average or above-average teacher. He concluded that student attitudes toward mathematics were not affected by the approach used when the students were under the direction of an average or above-average teacher.
Blair and Pendleton (6) administered a fifteen-item questionnaire to seventy-four teachers and seventy-two students. They found that teachers and students differed on the attitudes of young people toward current issues in only three instances. In one of these, the teachers felt that students would agree to the statement which held that teenagers would feel that smoking marijuana was no more harmful than consuming alcoholic beverages. However, the students did not agree that a majority of youth would support that statement.

One of the most prevalent, unresolved issues of the day, in regard to young people, is indeed the abuse of drugs. Vincent (67) developed a scale similar to the Purdue Master Attitude Scales entitled "How I Feel About Smoking Marijuana." Eighth, tenth, and twelfth graders served as subjects. His data revealed a mean attitude unfavorable to smoking marijuana. Tenth grade students expressed a less negative attitude than did the eighth and twelfth grade students.

A report in School and Society (59) showed that support for legalization of marijuana has doubled among teenagers since 1969. A majority still believe possession and sale of marijuana should remain illegal. This study, undertaken by the Purdue Measurement and Research Center, also revealed that pupils are more aware of drugs and of where they can buy them. The students interviewed felt that social pressure, such as being called "chicken," has increased in recent years. About
90 per cent of the sample said that they had studied drugs in school, mostly as a unit within a course, such as science or health.

In the fifteen years since the Supreme Court decision outlawing dual school systems, Negroes in the South have made a great deal of progress in some areas and little in other localities. How do the Negro students view education? Williams and Cole attempted to answer this question by polling rural and urban students in the deep South who attended segregated and integrated schools. Based on the data, they suggested that southern Negro students had poorer academic morale in recently integrated than segregated schools, and Negroes have poorer attitudes toward school than did the white students in their study. "Many Caucasian teachers initially expect Negro students to be obtuse and consequently treat them as intellectually inferior" (72, p. 76), they concluded.

The Purdue Opinion Panel has conducted numerous studies in the past thirty years. At one time, Remmers, who developed the Purdue Master Attitude Scales, was the director of this research program. Franklin and Remmers (27) explain the technique of the Panel in this way:

Polls of the Purdue Opinion Panel are given by high schools to approximately 6,000 to 17,000 students in high schools all over the nation. Students record their answers anonymously on a special ballot card. When the cards are returned to Purdue University, these marks are converted into punched holes, making it possible for all the data to be tabulated on International Business Machine equipment. Each school is sent a report of its own results in addition to this national report.
The first part of each poll asks a number of questions establishing the individual's sex, school grade, and home environment. A pupil's response to the "house-home" scale gives an estimate of socio-economic status. Students are also asked to give the level of education of their mothers, since we found this to be related to many attitudes.

About 10,000 high school pupils from all sections of the United States replied to this poll. A sample of 2,000 pupils was drawn so that analyses of results could be made on a group as nearly representative of the nation's high school pupils as our data would permit. The sample was stratified according to grade, sex, residence, and geographical region but strictly randomized from our total return with respect to all other characteristics (27, p. 7).

In determining attitudes toward civil liberties and the 1960 election, a questionnaire was administered by the Purdue Opinion Panel. Franklin and Remmers (25) report that youth believed less in some civil liberties than in the past, but a slight increase in overall democratic principles was noted. In a mock presidential election, youth voted much as the final adult vote turned out to be.

Again Franklin and Remmers (26) conducted a poll of young people. Studying attitudes toward courtship and marriage, they administered a questionnaire in 1961 which contained many of the same items from a similar survey taken in 1950. They found substantial agreement between the teenagers of the 1950 population and the 1961 population concerning both desirable traits in a mate and the average age for marriage.

The Report of Poll No. 63 presents data from a study undertaken to measure teenagers' attitudes toward the following:
1) the Peace Corps and national security, 2) plans after high school, 3) high school courses and plan of study, 4) reading, and 5) educational materials. The questions in part one were designed to explore attitudes toward the Peace Corps and toward the importance of education to national security and world peace. The responses to this poll, taken in 1961, show that teenagers were very favorable toward the Peace Corps and did highly value education. While 37 percent were interested in joining the Peace Corps, 87 per cent considered it "desirable." Remmers and Franklin (27) report that nine students out of ten thought that it was a good idea for the Corps to aid needy areas in the United States as well as abroad.

In replying to questions about plans after high school, more than 50 per cent indicated they planned to continue their educations. Of the others, 17 per cent planned to go to work, 12 per cent planned to join the military services, 13 per cent were going to enroll in non-college training of some type, and 9 per cent had other plans or no plans. They saw themselves "twenty years from now" in the following roles: the girls, housewife, 47 per cent; professional, 33 per cent; office worker, 13 per cent. The roles envisioned by the boys were professional, 38 per cent; tradesmen, 11 per cent; farm or ranch owner, 11 per cent; factory worker or mechanic, 9 per cent; and owner of a factory or small business, 8 per cent.
The third part of the study dealt with high school courses and plan of study. When asked "What is the most important thing you should get out of high school?" the results show that the students answered in this order of importance: 1) skill in basic subjects like English, science, and mathematics, 2) sense of discipline and responsibility, 3) knowing how to get along with others, and 4) a vocational skill. Next, the researchers asked them to rank subjects from most liked to least liked. Interestingly, basic subjects did not top the list, but the most liked subjects were special subjects, such as driver's training and home economics and shop and vocational courses. English and mathematics were far down the line.

The study reveals that most teenagers personally owned some books other than text books, and fiction was the preferred spare time reading category.

Only 8 per cent of the students in the survey had not used educational materials supplied by a company or industry. The sources of these materials were different according to the students' sex. Boys tended to use materials supplied by industry and labor unions, and girls used materials from social welfare and religious organizations.

In 1962, Blumenfeld, Franklin, and Remmers (8) published the results of Poll No. 65. This study considers high school students' attitudes toward civil defense, fallout shelters, and homework. It is the latter category that is of interest here.
On the basis of 89 per cent of the respondents saying they almost always or usually had homework, the authors conclude that homework is a common practice. Most students indicated they spent between one to three hours daily on homework, and 58 per cent felt that one to two hours daily was about the right amount of time to be spent on this activity. Not having a quiet place to study and not having anyone interested in helping were problems for some students. When asked about group study, the poorer students thought it helped, but the better students found it less helpful than studying alone.

Leidy and others (39) conducted Poll No. 80 in 1967. This poll views two aspects of student opinion--attitudes toward the future and attitudes toward the Selective Service System. They found that, in general, public high school students supported American military policies in Viet Nam but not quite as firmly as they did in 1966. The students sampled did not see a possible early end to the conflict nor did they see a clear victory for either side.

The students missed predicting the future by the unforeseen circumstances surrounding the death of Robert Kennedy. In 1967 they predicted Kennedy and George Romney to be the Presidential candidates with Kennedy winning the election.

The data disclosed that students favored a voting age of eighteen, thought women would become more active in politics, saw an improvement in relations with Russia, and predicted a United States victory in the race to the moon.
In another area dealing with the future, they expected American society to become better educated, more urbanized, and more prosperous. Students living in the South predicted complete integration within ten years.

The students predicted that future moral standards would be more liberal, divorce rates would increase, and materialism would be more evident. Personal dignity and love of fellow man would decrease, they said, and anxiety and nervousness would increase. Religion was viewed as a means to overcome these problems, but the students did not foresee a great revival of interest in the organized church.

Leidy and his associates report that the attitudes of most students (strong pluralities or majorities) were that present Selective Service laws would remain the same and that the draft would not be changed.

Research Related to the PMAS

Attitude scales of the generalized type were introduced some three decades ago by Remmers and his colleagues at Purdue University. They attempted to overcome the laborious work involved in developing scales by the Thurstone equal-appearing interval technique. The same basic procedure was followed, but instead of having statements referring to single attitude objects, they were couched in terminology designed to be applicable to a variety of objects. For example, the statements "Is sure to be effective" and "Will cause too much friction,"
from the *Scale to Measure Attitude Toward Any Proposed Social Action* could apply to such diverse subjects as fluoridation of water to busing to achieve racial integration.

A number of such master attitude scales were developed, each applicable to a particular class of objects; for example, a scale for attitude toward any social institution, any proposed social action, and so forth. Most of these master scales were fairly reliable, having a median coefficient of .70, and Osgood, Suci, and Tannenbaum (51) report that, on the whole, they compared favorably with specific Thurston scales.

The master scales are of major scientific value in comparability with other scales. Osgood, Suci, and Tannenbaum (51) state that generalized scales have some very definite values, such as being economical in time and effort and being able to be used at the time an issue is in the forefront. Remmers (55) used the *Attitude Toward Any Proposed Social Action* immediately to gather data concerning Roosevelt's proposed enlargement of the Supreme Court.

Remmers (54) advocated research involving attitudes and attitude change, stating that such studies were important in predicting the effect of various types of social change. The *Purdue Master Attitude Scales* have been used to gather much data. Some of the studies are reported here.

Kelley (37) determined that the scales were valid in differentiating the attitudes toward Sunday observance of Seventy-day Adventists versus the attitudes of other church
members. A classic study of the attitudes toward groups was conducted by Remmers (53). Using the Scale to Measure Attitudes Toward Any Group, he found that no substantial change in attitudes toward Germans and Jews had occurred over the interval between 1935 and 1942. The average attitudes toward Germans and Nazis were widely separated. Nazis and Japanese were viewed negatively by the 114 students in the sample.

In a related study, Albright and others examined the changes in attitudes toward racial and national groups over a twenty-year period. Psychology students at Purdue University expressed their attitudes toward Germans, Japanese, Jews, and Nazis. The time period was from 1935 to 1955. It was noted that there was a marked increase in mean attitude, i.e., more favorable, toward each group except the Germans. "Probably the most outstanding finding with respect to the present study is the more favorable attitude shown by the 1955 respondents toward the Japanese, Nazis, and Jews" (2, p. 377). This was perhaps due to the fact that memories of World War II were less distinct.

Bledsoe, Brown, and Strickland (7) used the Scale for Measuring Attitudes toward Any Teacher and the Pupil Observation Report to study the perceptions of high school students regarding their teachers. They found that student perception in relationship to teacher age, experience, and certification did not reveal a consistent pattern. Younger teachers (under thirty-five years of age) received higher ratings, and teachers
with five to nineteen years experience received the highest ratings on all six variables.

Facen (23), in a well designed study, used the PMAS to study the degree of tension produced in white students when presented with certain materials regarding Negroes. She studied skeletal or overt behavior, visceral behavior, and emotional experience. The subjects were not aware of the true purpose of the activities involved. Two hundred thirty-five observations were recorded by three judges. Reliabilities of the judges' data were high enough for Facen to retain her hypothesis that tension is produced in white students when presented with certain materials regarding Negroes.

Ellish (21) used the Scale to Measure Attitude Toward Any Institution with relation to junior colleges and four year colleges. He found that the mean grade-point average and attitude were lower for the junior college group. There was a statistically significant positive correlation between attitude and academic achievement for the two groups, he reports.

The Scale to Measure Attitude Toward Any Institution was used by Snow and Cohen (63) to study the attitudes of 192 students. They found that attitudes changed with continued professional socialization among students in Life Sciences, Physical Sciences, Social Sciences, and the Humanities.

Lutenbacher (42) compared the team teaching program in a junior high school with the traditional instructional program,
Six hundred students chosen at random participated in the study. The same teachers were used in both teaching techniques. Data were collected by the administration of the Purdue Master Attitude Scale. Form A was used for the pre-test and Form B was used for the post-test. He states that no significant differences were found in the area of attitudes between the experimental and control groups.

Sills (61) conducted a study in a junior high school social studies program that did show significant differences in the attitudes of the experimental and control groups. A social-studies teacher and an aide established a social-studies laboratory. The purpose of the program was to determine if the interests and basic study habits of social-studies pupils would be increased as a result of providing a multi-media materials laboratory. The laboratory was located in the social-studies area of the building. Student use was on a voluntary or referral basis during independent study time or regularly scheduled class time. Each visit was catalogued and student behavior was observed. An evaluation using the PMAS and a test of basic skills were administered at the beginning and end of the semester. The data revealed no significant increase in skills, but the experimental group showed an increase in positive attitude toward social-studies.

Graves (31) used the Scale to Measure Attitude Toward Any School Subject with 160 eighth grade English students. At the end of the school year he administered the alternate form.
He found no statistically significant differences in attitudes between the experimental and control groups. Both showed a decrease in positive attitude toward English over the year.

Wick and Yager (70) used the same scale to determine attitudes in a science course. They concluded that a certain portion of students showed a decrease in course attitude and a comparable group showed a gain in course attitude. They reported that the teacher was an important factor in the formation of attitudes, but grades did not appear to be very important in determining attitudes toward science. The students' attitudes toward different science courses were found to be unstable.

Attitudes of dropouts toward school were studied by Anderson and Follman (5). One hundred and nine students who had dropped out of school but returned under the Wisconsin Compulsory Attendance Law were administered the Purdue High School Attitude Scale, Form A, and the Scale to Measure Attitude Toward Any School Subject, Form A. The students also judged seventeen school related concepts and eighteen evaluative-bipolar-semantic-differential scales. The data revealed that dropouts' attitudes were more indifferent toward school than negative. Scores were nonsignificantly negative for social studies, English, science, and health, nonsignificantly positive for mathematics. On the concepts measured by the semantic-differential scales, the concepts “classroom, classmates, writing, reading”
were not significantly positive. "School buildings, principal, high school, grades and rules" were not significantly different from the neutral score. "School subjects, teachers, keeping quiet, school books, tests, and talking in front of class" were found to be significantly negative. The authors reported that Negro girls were significantly more positive on all concepts than white boys. White girls tended to have more positive attitudes than did white boys.

Wilkinson (71) administered a pre-test and post-test of the Scale to Measure Attitudes Toward Any School Subject in a study of attitudes toward mathematics. Among eighth graders, he found that students who were taught mathematics with the use of supplementary materials did not show a significant gain in attitude over those who were taught by the traditional method.

Personal Problems of Young People

The term problem is derived from the term problema meaning anything thrown forward, such as a question proposed for solution. Another meaning involves a matter concerning difficulty. It is in this sense that personal problems of youth are considered here. Noble (49) studied the things that adolescents fear. She found that fear of not "making it" with their peers, of not having enough money or status or fun, of being rejected or ridiculed, of not passing a test, or of not being accepted by the college of their choice were some of the problems feared by youth.
McCandless (44) painted a picture of the youth with serious personal and social problems as one who was likely to come from a bad home, to be poor, to be afforded little opportunity within the broader society, to function at a low level cognitively, and to be personally unhappy as well as socially disruptive. He was seen as an underachiever, while in school, and sexually disordered. In short, he was overwhelmed by drives, but his legitimate channels for reducing or satisfying them were few, and his adaptations were poor.

Deutsch (17) reported that modern sociologists say, in addition to the customary personal problems of the adolescent, there now exists something they call "youth problems." Some are of the opinion that in present American society there are no incentives for the younger generation to take part in social developments. The goals of the grownups are distrusted or rejected by them, and contemporary social-political aims in general do not seem to them to present ideas that are capable of fulfilling their emotional and intellectual needs.

Speaking to this same problem, Rafalides and Hoy (52) described the modern youth as deeply troubled by feelings of alienation. They included in student alienation feelings of powerlessness, meaninglessness, normlessness, isolation, and self-estrangement. They proposed that high schools be more humanistic and less custodial to help solve the problem.
Taking a historical approach, Swift (64) notes that misbehavior is a prevalent problem in the traditional American school and it often attains serious proportions. He states, for example, that in 1837 over 300 schools in Massachusetts alone were broken up by rebellious pupils. A more humanitarian approach was adopted in the twentieth century and the percentage of disturbances today is very small when one realizes that some forty million students currently are enrolled in school.

What are the problems that concern students today? Two of the seven reasons Freudenberger (28) lists as "reasons why kids come seeking therapy" are depression such as "I feel sad and cry a lot" to "I'm afraid of committing suicide"--and serious conflict at home with their parents. Still another reason he lists is fear of failing in school, of being about to flunk out, or of seriously wondering whether to drop out for a while.

McCandless (44) considered delinquency, drug abuse, emotional disturbances, sexual adjustment and behavior, and school and work underachievement or misdirection as the areas of the most serious and/or frequent problems common to adolescents.

Although sexual development is a primary concern during adolescence, Liebman (40) warns that sexual problems in adolescence may be an expression of developmental difficulties of a nonsexual nature. He cites an example of a sixteen-year-old girl who used promiscuity to deny a persistent underlying feeling of stupidity and fear of educational and vocational failure.
Despite the talk of the "new morality," morals and religion are areas of concern to young people. Schab (57) comments that the study of moral development of children has revived. He asked some 1,000 black and white high school boys and girls to reply to a questionnaire concerning moral concepts of self and others. Girls considered themselves more moral than boys and felt they could talk to parents about sex more than the boys did. Negro students were more convinced that "honesty is the best policy" than were the white students, but Negro boys were more frequent to admit to cheating in school. Negro girls were least prone to admit this behavior. In a related study, Schab (58) polled 1,569 students on the question of honesty. Of his population, 736 were college bound, 285 were non-college bound, and 548 were undecided. The students felt that at least 97 per cent of their peers cheated, they felt that boys cheated more than girls, low achievers cheated more than high achievers, and more cheating took place in arithmetic than in any other subject area.

Lowery and Reilley (41) compared the rankings obtained by Symonds (65) in 1935 and those obtained by Harris (34) in 1957 to the rankings they obtained from high school students in East Central Texas in 1969. All studies used the same questionnaire developed by Symonds. Much like the Mooney Problem Check List, it categorized problems into fifteen areas. Lowery and Reilley compared two groups, students in grades nine through twelve in an all Negro high school and a predominately white high school.
In comparing the three populations, they found money to be rated high in all studies, ranking first in 1935, and second in 1957 and 1969. Study habits ranked fourth in 1935, first in 1957 and second in 1969. There was a drop in personal attractiveness from third in 1935, to fourth in 1957, to seventh in 1969. While health was more of a problem in 1935 than in 1969, mental hygiene rose from a ranking of eleventh in 1935 to fifth in 1957 to third place in 1969. Sex adjustment was another category that has steadily risen as an area of concern for high school students.

In comparing the two groups of their study, Lowery and Reilley found that both groups considered money as their main problem and study habits as second. The greatest difference between the two groups was in the area of safety, in which the white high school students ranked it a low of thirteenth, but the Negro group considered it as the sixth ranking problem to them. The authors conclude that some of the differences may be attributed to a changing society in which school is much more important today than for the youth of previous studies. Moreover, cultural differences may be important in that the Symonds sample lived in Oklahoma and New York, Harris drew from a sample in Minnesota, and probably neither contained a significant number of Negro students.

Research Related to the PCL

Mooney and Gordon (47) list over forty studies that have been conducted using the Mooney Problem Check List. The
following data do not include these studies, nor are they intended to be inclusive, but a representative sampling of the many studies using the PCL is presented. Green (32) notes that the PCL is particularly valuable in obtaining information from which the major individual and group problems can be identified. One such study of groups involved 154 probation students and an equal number of honor students. Brown (10) sought to determine which of the two groups would have the greater number of problems. The data revealed that the range of total number of problems checked was from six to one hundred ninety-five for the probation students and from four to one hundred seventy-five for the honor students.

Abel and Gingles (1) report that Mooney found, in a study published in 1942, that vocational and educational future, finances and employment, and school adjustment were the three highest ranking problem areas as shown on the Mooney Problem Check List. They were interested in determining if adolescent girls in 1965 had similar or different problem areas. They found the areas of greatest problems in the 1965 population to be adjustment to school work, social-psychological relations, and social and recreational activities. They conclude that the order of problem areas has altered in the intervening years.

The Mooney Problem Check List has been frequently used in conjunction with other instruments. One such study is reported by Goldman (30), in which he tested the correlation between the scores on the California Test of Personality and
the PCL. Three hundred and one college students responded to the two instruments. Of the 360 correlations obtained between the various scores of the two, 288 were significant at the .01 level of significance. Twenty-five were significant at the .05 level. Goldman found that most of the correlations were negative, i.e. those who demonstrated a high degree of adjustment on the CTP showed fewer problems on the PCL. He concludes that the PCL permitted an assessment of the person's adjustment status.

Kemp (38) also used the California Test of Personality and the Mooney Problem Check List. He studied forty-five junior high school students and their parents. The adolescents took both tests, the parents answered the CTP as they perceived their children to be. The students responded to the CTP as they perceived their parents to be. The results revealed three groups on the basis of problems checked; low, medium, and high. The "low" perceived themselves and their parents as better adjusted than the other two groups. Those who checked the greatest number of problems perceived their parents as poorly adjusted and much less well adjusted than themselves. All but the well-adjusted adolescents were concerned about money, work, and the future.

Hammes (33) administered the Heineman Forced-Choice Anxiety Scale to 256 college students. Twenty-five low-scoring and twenty-nine high-scoring subjects were given the PCL. He learned that 1) high-anxious subjects have a
greater number of personal problems than do low-anxious subjects, 2) high-anxious subjects have personal problems in a larger number of behavioral areas than do low-anxious subjects, 3) the two groups differ in number but not duration of problems, and 4) the hypothesis that high-anxious subjects enter laboratory experiments with greater anxiety than do low-anxious subjects was confirmed.

The data taken from the responses of eighty-eight students' replies to the PCL and the Allport-Vernon-Lindsay instrument were studied by Fishburn and King (24). They found that people who showed an interest in social values perceived themselves as being bothered by more problems in the areas revolving around social and recreational activity and also in the area of courtship, sex and marriage than did people who placed less emphasis upon social values.

Cutsumbis (15) studied the relationship of certain sociological factors to self-reported anxiety as revealed by the Mooney Problem Check List. A pattern emerged between social class and self-reported anxiety for males and females, but he found no relationship between sex, religious affiliation, parental ethnicity, or grandparental ethnicity and problems checked by his population of 507 students.

Esper (22) used the PCL to distinguish between junior high school students who referred themselves for counseling and those who were referred by others. Of the eighty-seven boys and ninety-five girls he found that the self-referrals
tended to reflect a higher frequency of problems, received lower grades, and displayed many school related problems. He found that girls were more likely to be self-referrals than boys.

Twenty-one high school teachers identified eighty-seven pupils as those with problem behavior in a study conducted by Amos and Washington (4). Both teachers and students filled out the PCL. The results showed that teachers failed to sense many adolescent problems and seemed especially unaware of the extent of problems in the areas of money, work, the future, and health and physical development. Teachers' judgements were more similar to those of boys than to those of girls, and the teachers could better determine the problems of ninth graders than of seventh graders.

Clements and Oelke (13) relate the eleven areas of problems on the PCL and the fourteen variables on the Two Factor Index of Social Position developed by Hollingshead (36). In a group of 720 randomly selected adolescents from forty-one counties in Georgia, they gathered data to show that seven of the fourteen variables were statistically significant. These were 1) population mobility trends of the school community, 2) students' desire to discuss their problems with another person, 3) sex of students, 4) grade level of students, 5) educational level of heads of household, 6) teacher-pupil ratio, and 7) counselor-pupil ratio. They conclude that the problems of adolescents can be most meaningfully studied at
the local level in each community, and that these problems can be dealt with most effectively when all persons involved -- students, parents, educators, and community leaders-- recognize their seriousness and work together toward solutions.

Mezzano (46) attempted to determine the concerns of students and the preference for male and female counselors. Using a questionnaire based on the PCL, he obtained responses from 1,495 students in grades seven through twelve in three Wisconsin communities. Based on the results of his study, he decided that boys and girls in grades nine through twelve were most concerned about their vocational and educational future, while boys in grades seven and eight were most concerned with home and family and school. Girls in grades seven and eight were most concerned about their health and physical development. Boys, except in the area of concern labeled home and family, maintained approximately the same majority preference for a male counselor from grade seven through grade twelve. In the area of home and family problems, boys preferred a male counselor in the lower grades and a female counselor in the upper grades. Girls, except in the area of health and physical development, showed a steady shift toward a greater preference for male counselors as they progressed in school. This shift was most noted in the areas of school, educational and vocational future, and moral and religious concerns. He suggests that both boys and girls assign greater prestige to the masculine than the feminine role and seek male help to discuss
plans of an educational or vocational nature, but seek the help of female counselors in a succorant situation as a mother substitute.

Zunich (75) tested the hypothesis that personal problems of junior high school students and parental attitudes toward child rearing and family life were significantly related. Forty students and parents responded to the McGuire-White Index of Social Status, the Mooney Problem Check List, and the Parental Attitude Research Instrument. The hypothesis was largely supported, and Zunich notes that of the relations observed between parents and their daughters, sixty-seven were significant, while only twenty-five relations were noted between parents and sons. Girls evidenced a higher frequency of problems.

Desena (16) studied 1,061 freshmen, male students to see if differences in the number of problems checked on the PCL discriminated significantly among over-, under-, and normal-achieving students. He found that under-achievers revealed 1) less concern in the areas of finances, living conditions, and employment than did the over-achievers, 2) fewer problems in the areas of social-psychological relations than did the over-achievers, 3) a greater willingness to discuss their problems than did the normal- and over-achievers, and 4) their most prevalent problem areas were similar to those of normal- and over-achievers. These areas were 1) adjustment to college work, 2) social and recreational activities, 3) social and psychological relations, 4) the
future, both vocational and educational, 5) personal-psycho-
logical relations, and 6) courtship and marriage.

Marshall (43) studied the relationship between personal
problems, as checked on the PCL, and grade achievement. The
subjects were 115 high school students in grades nine through
twelve. The expected grade-point averages were predicted by
the Differential Aptitude Test verbal scores. Low-achievers
indicated that they were unable to adjust to school situations,
that they disliked school, and that they would like to quit
school and find jobs. The main finding in regard to average-
achievers was that they were unhappy at home and that they felt
overly restricted by their parents. High-achievers expressed
concern about personality problems. Even though they excelled
in their studies, they indicated that they worried about exam-
inations. Marshall summarizes by stating that high-achievers
are more aware of their internal needs and low-achievers are
more aware of their external needs.

The Mooney Problem Check List has been used in many
studies dealing with ethnic and racial groups. Vittenson (68)
studied thirty-one male and sixty-nine female Negro college
students. She states that of greatest concern to the male
students is their adjustment to college work. Many indicated
that they were afraid to speak up in class. The female students
were also concerned with college work, as manifested by the
feeling of their lacking good study habits. Overall, they
felt inadequately prepared for college work, felt the need for
self-improvement culturally, and they were concerned because of a lack of time for themselves. They feared making social mistakes and expressed problems in the area of morals and religion. Vittenson makes recommendations for improvement as far back as the primary grades as a result of her data. She conveys the notion that Negro students have been neglected throughout their school years, and, when they arrive in college, they face more problems than other segments of the population as a result of this neglect.

Smith (62) studied the problem areas of urban and rural southern Negro children. He found that the highest ranking problem areas for the two groups did differ, in that rural youth were concerned about finances, living conditions, and employment; adjustment to school work; and the future, both vocational and educational. Urban youth's problems centered around adjustment to school work—curriculum and teaching procedures—and personal-psychological relations. Rural youth had a mean of 33.15 problems checked on the PCL, and urban youth had a mean of 52.68. Smith reports that the two groups differ at the .01 level of significance.

Anglo-American and Latin-American students were studied by Witherspoon (74), using the PCL. Of the 309 in his population, sixty-three were Anglo-American girls, ninety-seven were Latin-American girls, seventy-one were Anglo-American boys, and seventy-eight were Latin-American boys. Out of eighteen school problem items, the Latin-American boys had a
higher percentage in twelve of them. Both races had trouble with arithmetic but the Latin-Americans more than the Anglo-Americans. Latin-American boys had more problems than Latin-American girls, and these girls worried more about grades than did Anglo-American girls. The Anglo-American girls were more concerned about social relations and social mistakes than were the Latin-American girls.

In another type of study using the PCL, Walsh and Russell (69) studied college major choice and personal adjustment. They used Holland's (35) theory of vocational choice and the PCL. They focused on the differences reported in personal adjustment problems between freshmen students who made an incongruent college major choice and those freshmen students who made a congruent college major choice. Their data revealed that subjects who had made a congruent college major choice reported fewer personal adjustment problems when compared with subjects in the incongruent group.

Summary

For several decades social scientists have been studying attitudes. Of the many instruments to measure attitudes, most fall into one of three types--the bipolar semantic differential, the forced-choice Likert type scale, and the equal-appearing interval type scales pioneered by Thurstone and Chaves. The Purdue Master Attitude Scales, developed by Remmers at Purdue, is of the latter type. These scales
have the advantage of being brief, easy to administer, and applicable to most age groups. The wide range of attitude objects that can be measured by these scales is demonstrated by the research reviewed here. A review of studies concerning attitudes reveal that attitudes are a basic component of human personality, and much of man's behavior is related to the attitudes he holds.

Modern educational practice is based on the philosophy that what a student learns intellectually is closely related to the student's personal adjustment. There are many problems which confront young people in our complex, rapidly changing society. While the problems and concerns of adolescents have been frequent topics of discussion among educators, research revealed that many teachers are not aware of what really troubles their students. Moreover, data indicate that urban, minority students have more problems than some segments of the community. Many researchers conclude that it is to these problems that educators must address themselves in the future.
CHAPTER BIBLIOGRAPHY


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CHAPTER III

PROCEDURES FOR COLLECTING AND TREATING DATA

The basic purpose of this study is to determine if some groups of high school seniors are more satisfied with school and curriculum than other groups and to identify areas of personal problems of most concern to them. To accomplish this, two instruments (See Appendix A) were administered to the students participating in the study.

This chapter consists of descriptions of the subjects, the school in which the research was conducted, descriptions of the instruments used in the study, the procedures followed in collecting the data, and a description of the procedures for statistically treating the data.

Subjects

The participants in this study were high school seniors in one comprehensive high school in the Fort Worth Independent School District. The students were both male and female, and were of white, black, and Chicano ethnic origin. A total of 172 subjects were placed into one of three groups. The College Preparatory students were identified as Group I, the Vocational Preparatory students were identified as Group II, and the General Diploma students as Group III. There were twenty-six male and thirty-one female students in Group I;
and Group II was composed of twenty-two males and thirty-six females. Twenty-eight males and twenty-nine females made up Group III.

All students had had a minimum of seven semesters of high school and had attended the chosen school a minimum of three semesters. The males and females in Group I both had a mean age of seventeen years and ten months. Males in Group II were older than the females, in that their mean age was eighteen years and two months compared to a mean age of seventeen years and ten months for the females in that group. Eighteen years of age was the mean for the males in Group III, and the females had a mean age of seventeen years and eleven months.

Of the three, Group I had the highest grade-point average, 3.08; Group III ranked second with an average of 2.60; and Group II had a grade-point average of 2.37. A more complete analysis is presented in Chapter IV concerning ages and grade-point averages.

Research Site

Paschal High School was selected for this study. A modern plant, having been built in 1955, it has a tradition that goes back to the turn of the century when, at another location, it was the only high school in the city. Located in the southwestern section of Fort Worth, a city of 400,000 population, the school serves a heterogeneous community.
The students resided in a recently settled black neighborhood, a long established Chicano neighborhood, and middle class white and upper class white neighborhoods. The subjects came from Catholic, Jewish, and Protestant homes. Nearby was a large university.

In the 1971-72 school year, 3,103 students were enrolled in the selected high school. There were 642 seniors and of these sixty-four were non-white. This latter group was composed of one American Indian, forty-two black, and twenty-one Chicano students. There were 128 teachers, four administrators, five counselors, and one nurse on the staff in that year.

Four years of science, four modern foreign languages, advanced mathematics, and humanities in the arts were some of the course offerings in the area of college preparation. Business education, distributive education, health occupations, vocational homemaking, and mechanical training are examples of course offerings in the area of vocational preparation. There were numerous course offerings of a traditional, general nature.

A survey of the 1970 graduates of this school revealed that 90 per cent of those who went on to college were making college grades of "C" or better (4).

Description of the Instruments

The Purdue Master Attitude Scales consists of nine scales. They are scale to measure attitude toward: 1) any
school subject, 2) any vocation, 3) any institution, 4) any defined group, 5) any proposed social action, 6) any practice, 7) any home-making activity, 8) individual and group morale, and 9) the high school. The manual (6) states that the scaling procedure for each of the scales is the psycho-physical principle that equally often observed differences are equal—often referred to as the Thurstone attitude scaling technique. Remmers (6) reports, "Beyond their face validity, these scales have demonstrated validity both against Thurstone's specific scales with which they show typically almost perfect correlations and in differentiating among attitudes known to differ among various groups" (6, p. 2). Reliabilities of the scales for various population samples ranged from .71 to .92. There are no norms reported because the norms are unique for each population, since what is being measured is the effective value of an attitude object defined by the scale values of the items endorsed by the respondents. The scales are easy to read and require from five to ten minutes to answer a scale. The 1960 revision Form A was used in this study.

The 1950 revision of the Mooney Problem Check List, High School Form, contains 330 items. The eleven scales of the PCL are 1) health and physical development, 2) finances, living conditions, and employment, 3) social and
recreational activities; 4) social-psychological relations; 5) personal-psychological relations; 6) courtship, sex and marriage; 7) home and family; 8) morals and religion; 9) adjustment to school work; 10) the future: vocational and educational; and 11) curriculum and teaching procedures.

Each area is arranged in such a way that scoring is simplified, but research indicates that subjects are unaware of any special arrangement of the items.

This instrument has been widely used since its introduction. Burgess, cited by Buros (1), states that the information available from all sources suggests that the popularity of the Mooney instrument is well deserved. The PCL is self-administering and is usually completed in about forty minutes. The manual also notes that the checked problems can be summarized very easily because of the format of the check lists and the arrangement of items. Mooney and Gordon (5) present studies on the validity and reliability, but note that these aspects of their instrument cannot be compared with other data on validity and reliability, due to the nature of the PCL. The acceptance of the instrument seems to reflect its validity and reliability. The authors do not provide norms but, rather, encourage the users to develop local norms.
Procedures for Data Collection

The literature was surveyed in order to obtain a greater understanding of the problem.

A comprehensive high school, meeting the following criteria, was selected: 1) five hundred or more seniors, 2) six or more vocational programs, 3) heterogeneous socioeconomic background of students, and 4) heterogeneous ethnic and racial student body. Cooperation of the faculty and staff of the school, as well as the approval of the central administration and research department, was secured.

From this high school a computer print-out of the names of all seniors enrolled in the 1971-72 school year was obtained. Each name was numbered, and a table of random numbers (2) was used to select students for the sample. The fourth number of the first column was arbitrarily selected as the starting point. Each group of three numbers after that point were considered a unit corresponding to a numbered name.

With the help of the guidance counselors, the cumulative folders of the students randomly selected were examined. Students who had attended this school less than three semesters were eliminated. This accounted for the loss of seven students. Drawing upon data provided by the Plan for Graduation and the EGIS Planning Guide (8), the remaining students were placed into one of the three groups
of the study. Thus, if a student whose Plan for Graduation included foreign language, for example, and he indicated on the EGIS guide that he planned to go to college, he was placed in the College Preparatory Group. If a student's Plan for Graduation indicated non-college preparatory subjects, such as related mathematics, but on the EGIS Planning Guide he indicated that he was going to college, he was rejected because of this discrepancy. This accounted for a loss of forty-one students. The remaining students were contacted by letter (See Appendix B) through their homerooms and asked if they were interested in participating in the study. This procedure was followed until a minimum of sixty students was placed in each of the three groups.

During the last week of February, 1972, 162 students responded to the Purdue Master Attitude Scales. These were administered in the small auditorium throughout the day during the student's free or elective periods. The following week the procedure was repeated when the Mooney Problem Check List was administered to a total of 172 students.

Prior to the administration, the PNAS and PCL had been coded in such a way that the group identity could be determined but the individual identity was not known. Turney and Robb (7) state that in studies of this nature, it is sometimes important that the subject be allowed to respond
anonymously. The students were instructed to indicate their ages in years and months, their sex, and ethnic background. No other identification was requested.

From a roll made for an attendance check, a list of subjects was compiled. This list was checked against the original list of randomly selected students, and group lists were made. The grade-point averages were secured for the students participating. A 4.00 system was used, in which an "A" was converted to 4.00, and a "D" was valued at 1.00. From these data, group statistics were tabulated and analyzed.

Treatment of the Data

The data on all students were punched on IBM cards by the Computer Center of North Texas State University. The Center processed the data using analysis of variance. Two-dimensional analysis of variance was used to test multiple comparisons. Where statistically significant differences among the means were indicated, Tukey's (3) test was applied to determine where the significant differences occurred. The .05 level was designated at the point at which statistical significance was established.
CHAPTER BIBLIOGRAPHY


CHAPTER IV

PRESENTATION AND ANALYSIS OF DATA

The basic purposes of this study are to discover if some groups of students are more satisfied with school and school curriculum than other groups, and to identify the areas of most prevalent personal problems of College Preparatory, Group I; Vocational Preparatory, Group II; and General Diploma, Group III, students. This chapter presents an analysis of the data which served as the basis for determining these aspects of students' attitudes and problem areas.

To test the hypotheses of this study, a design involving a two-dimensional analysis of variance was used. The .05 level of significance was selected as the basis for accepting or rejecting the hypotheses.

Chapter IV is divided into five parts. The first part presents an overview of all the data. Part two is an analysis of data derived from the Purdue Master Attitude Scales relating to Hypotheses I and II. Part three is an analysis of data from the Mooney Problem Check List relating to Hypotheses III and IV. The fourth part of the chapter is a presentation of data related to Hypotheses V through X. The last part is a discussion of non-hypothesized data.
Group composition was as follows: Group I, twenty-six males, thirty-one females; Group II, twenty-two males, thirty-six females; and Group III, twenty-eight males, and twenty-nine females.

Overview of the Data

A general picture of the findings related to the PMAS is presented in this section. Mean scores indicated that most of the attitudes were favorable, but none could be considered highly favorable. Only attitudes toward busing to achieve racial integration were held to be unfavorable by all groups. The neutral score on the PMAS is 6.0; the most favorable score possible is 10.3, and the most unfavorable score possible is 1.0 (4).

The means shown in Table I indicate that all three groups held favorable attitudes toward high school, English, and mathematics. However, Group II indicated unfavorable attitudes toward social studies and science. While the attitudes of students in Group III were favorable, they were only slightly so. Group I students held the most favorable attitudes in these two subject areas. All groups expressed somewhat favorable attitudes toward physical education.

Favorable attitudes were held by all groups toward free public secondary education. On the other hand, unfavorable attitudes were held by all groups toward busing to achieve racial integration.
TABLE I

MEANS AND STANDARD DEVIATIONS OF THE PURDUE MASTER ATTITUDE SCORES OF THREE GROUPS OF HIGH SCHOOL SENIORS

<table>
<thead>
<tr>
<th>Attitude towards</th>
<th>Group</th>
<th>N</th>
<th>Mean*</th>
<th>Standard Deviation</th>
</tr>
</thead>
<tbody>
<tr>
<td>High school</td>
<td>I</td>
<td>56</td>
<td>7.78</td>
<td>1.23</td>
</tr>
<tr>
<td></td>
<td>II</td>
<td>54</td>
<td>7.86</td>
<td>1.44</td>
</tr>
<tr>
<td></td>
<td>III</td>
<td>52</td>
<td>7.53</td>
<td>1.53</td>
</tr>
<tr>
<td>English</td>
<td>I</td>
<td>56</td>
<td>7.91</td>
<td>1.32</td>
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<tr>
<td></td>
<td>II</td>
<td>54</td>
<td>7.03</td>
<td>1.97</td>
</tr>
<tr>
<td></td>
<td>III</td>
<td>52</td>
<td>7.26</td>
<td>2.20</td>
</tr>
<tr>
<td>Mathematics</td>
<td>I</td>
<td>56</td>
<td>7.10</td>
<td>1.54</td>
</tr>
<tr>
<td></td>
<td>II</td>
<td>54</td>
<td>6.53</td>
<td>2.27</td>
</tr>
<tr>
<td></td>
<td>III</td>
<td>52</td>
<td>7.01</td>
<td>2.05</td>
</tr>
<tr>
<td>Social studies</td>
<td>I</td>
<td>56</td>
<td>7.64</td>
<td>1.20</td>
</tr>
<tr>
<td></td>
<td>II</td>
<td>54</td>
<td>5.78</td>
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<td>III</td>
<td>52</td>
<td>6.92</td>
<td>1.90</td>
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<td>Science</td>
<td>I</td>
<td>56</td>
<td>7.10</td>
<td>1.49</td>
</tr>
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<td></td>
<td>II</td>
<td>54</td>
<td>5.66</td>
<td>2.32</td>
</tr>
<tr>
<td></td>
<td>III</td>
<td>52</td>
<td>6.47</td>
<td>2.08</td>
</tr>
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<td>Physical education</td>
<td>I</td>
<td>56</td>
<td>6.14</td>
<td>2.00</td>
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<td></td>
<td>II</td>
<td>54</td>
<td>6.63</td>
<td>1.80</td>
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<td></td>
<td>III</td>
<td>52</td>
<td>6.69</td>
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<td>Free public secondary education</td>
<td>I</td>
<td>56</td>
<td>8.25</td>
<td>1.92</td>
</tr>
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<td></td>
<td>II</td>
<td>54</td>
<td>8.01</td>
<td>1.96</td>
</tr>
<tr>
<td></td>
<td>III</td>
<td>52</td>
<td>7.94</td>
<td>1.31</td>
</tr>
<tr>
<td>Busing to achieve racial integration</td>
<td>I</td>
<td>56</td>
<td>4.53</td>
<td>1.45</td>
</tr>
<tr>
<td></td>
<td>II</td>
<td>54</td>
<td>4.69</td>
<td>1.78</td>
</tr>
<tr>
<td></td>
<td>III</td>
<td>52</td>
<td>4.60</td>
<td>1.93</td>
</tr>
</tbody>
</table>

* A mean above 6.0 is favorable; below 6.0 is unfavorable

The means and standard deviations for the eleven problem areas and the total number of problems on the Mooney Problem Check List are shown in Table II. A comparison of means
indicate that the future: vocational and educational; court-
ship, sex, and marriage; and home and family were the areas
of greatest concern to the students in this study.

### TABLE II

MEANS AND STANDARD DEVIATIONS OF THE MOONEY
PROBLEM CHECK LIST SCORES OF THREE GROUPS
OF HIGH SCHOOL SENIORS

<table>
<thead>
<tr>
<th>Problem Area</th>
<th>Group</th>
<th>N</th>
<th>Mean</th>
<th>Standard Deviation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Health and physical development</td>
<td>I</td>
<td>57</td>
<td>3.82</td>
<td>2.58</td>
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<tr>
<td></td>
<td>II</td>
<td>58</td>
<td>4.81</td>
<td>2.92</td>
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<tr>
<td></td>
<td>III</td>
<td>57</td>
<td>4.72</td>
<td>3.64</td>
</tr>
<tr>
<td>Finances, living conditions and employment</td>
<td>I</td>
<td>57</td>
<td>2.93</td>
<td>2.35</td>
</tr>
<tr>
<td></td>
<td>II</td>
<td>58</td>
<td>3.47</td>
<td>2.82</td>
</tr>
<tr>
<td></td>
<td>III</td>
<td>57</td>
<td>3.00</td>
<td>2.82</td>
</tr>
<tr>
<td>Social and recreational activities</td>
<td>I</td>
<td>57</td>
<td>4.21</td>
<td>3.54</td>
</tr>
<tr>
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<td>II</td>
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<td></td>
<td>III</td>
<td>57</td>
<td>3.46</td>
<td>3.09</td>
</tr>
<tr>
<td>Personal-psychological relations</td>
<td>I</td>
<td>57</td>
<td>4.00</td>
<td>3.57</td>
</tr>
<tr>
<td></td>
<td>II</td>
<td>58</td>
<td>4.88</td>
<td>3.75</td>
</tr>
<tr>
<td></td>
<td>III</td>
<td>57</td>
<td>3.67</td>
<td>3.86</td>
</tr>
<tr>
<td>Social-psychological relations</td>
<td>I</td>
<td>57</td>
<td>3.02</td>
<td>3.09</td>
</tr>
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<td>II</td>
<td>58</td>
<td>3.97</td>
<td>3.21</td>
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<td></td>
<td>III</td>
<td>57</td>
<td>2.89</td>
<td>2.73</td>
</tr>
<tr>
<td>Courtship, sex, and marriage</td>
<td>I</td>
<td>57</td>
<td>4.77</td>
<td>3.30</td>
</tr>
<tr>
<td></td>
<td>II</td>
<td>58</td>
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<td>III</td>
<td>57</td>
<td>4.98</td>
<td>3.71</td>
</tr>
<tr>
<td>Home and family</td>
<td>I</td>
<td>57</td>
<td>4.29</td>
<td>2.88</td>
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<tr>
<td></td>
<td>II</td>
<td>58</td>
<td>4.98</td>
<td>5.92</td>
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<td></td>
<td>III</td>
<td>57</td>
<td>4.72</td>
<td>3.74</td>
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<td>2.84</td>
<td>2.61</td>
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<td></td>
<td>II</td>
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<td>3.10</td>
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<td>3.25</td>
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<td>2.98</td>
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<td>Problem Area</td>
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<td>Mean</td>
<td>Standard Deviation</td>
</tr>
<tr>
<td>--------------------------------------------</td>
<td>-------</td>
<td>----</td>
<td>------</td>
<td>--------------------</td>
</tr>
<tr>
<td>The future: vocational and educational</td>
<td>I</td>
<td>57</td>
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<td>4.04</td>
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<td>6.66</td>
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<td>4.66</td>
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<td></td>
<td>III</td>
<td>57</td>
<td>3.74</td>
<td>3.26</td>
</tr>
<tr>
<td>Total number of problems</td>
<td>I</td>
<td>57</td>
<td>41.11</td>
<td>24.70</td>
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<td></td>
<td>II</td>
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<td>53.57</td>
<td>32.81</td>
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<td></td>
<td>III</td>
<td>57</td>
<td>44.11</td>
<td>26.49</td>
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</table>

Table III presents data concerning those variables which were found to differ significantly between males and females.

**TABLE III**

MEANS AND STANDARD DEVIATIONS OF PMAS SCORES AND PLC FREQUENCIES OF MALES AND FEMALES ON VARIABLES THAT DIFFERED SIGNIFICANTLY BETWEEN SEXES

<table>
<thead>
<tr>
<th>Instrument and Variable</th>
<th>Mean</th>
<th>Standard Deviation</th>
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<tr>
<td></td>
<td>male</td>
<td>female</td>
</tr>
<tr>
<td></td>
<td>male</td>
<td>female</td>
</tr>
<tr>
<td>PMAS high school</td>
<td>7.43</td>
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</tr>
<tr>
<td>English</td>
<td>6.98</td>
<td>7.77</td>
</tr>
<tr>
<td>mathematics</td>
<td>7.24</td>
<td>6.59</td>
</tr>
<tr>
<td>science</td>
<td>6.87</td>
<td>6.04</td>
</tr>
<tr>
<td>PCL personal psychological relations</td>
<td>3.43</td>
<td>4.78</td>
</tr>
<tr>
<td>courtship, sex, and marriage</td>
<td>4.61</td>
<td>5.83</td>
</tr>
</tbody>
</table>
Differences are noted on four variables concerning attitudes and two problem areas of the PCL.

The ages and grade-point averages of the groups in this study are compared statistically. These data are presented in Table IV.

<table>
<thead>
<tr>
<th>TABLE IV</th>
</tr>
</thead>
<tbody>
<tr>
<td>MEANS AND STANDARD DEVIATIONS OF GRADE-POINT AVERAGES AND AGES OF THREE GROUPS OF HIGH SCHOOL STUDENTS</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Group</th>
<th>GPA Mean</th>
<th>GPA Standard Deviation</th>
<th>Age Mean Years-Months</th>
<th>Age Standard Deviation*</th>
</tr>
</thead>
<tbody>
<tr>
<td>I</td>
<td>3.08</td>
<td>.65</td>
<td>17-10</td>
<td>3.46</td>
</tr>
<tr>
<td>II</td>
<td>2.37</td>
<td>.74</td>
<td>18-00</td>
<td>5.39</td>
</tr>
<tr>
<td>III</td>
<td>2.60</td>
<td>.72</td>
<td>18-00</td>
<td>4.16</td>
</tr>
</tbody>
</table>

*Age Standard Deviation expressed in months

The students in Group I were younger than the other students. This group also had the highest grade-point average.

Date Related to Hypotheses I and II

Hypothesis I predicted significant differences among College Preparatory (Group I), Vocational Preparatory (Group II), and General Diploma (Group III) students on the variables related to the PMAS. Hypothesis II predicted significant differences between the males and females on the
variables stated in Hypothesis I. The results of analysis of variance for the data related to high school are shown in Table V.

**TABLE V**

**ANALYSIS OF VARIANCE OF ATTITUDES TOWARD HIGH SCHOOL FOR THREE GROUPS OF HIGH SCHOOL SENIORS**

<table>
<thead>
<tr>
<th>Source</th>
<th>Sum of Squares</th>
<th>df</th>
<th>Mean Square</th>
<th>F Ratio</th>
<th>P</th>
</tr>
</thead>
<tbody>
<tr>
<td>Between Groups</td>
<td>13.87</td>
<td>5</td>
<td>2.77</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Sex</td>
<td>10.48</td>
<td>2</td>
<td>.92</td>
<td>5.43</td>
<td>.02*</td>
</tr>
<tr>
<td>GXS</td>
<td>1.55</td>
<td>2</td>
<td>.77</td>
<td>.40</td>
<td>.66</td>
</tr>
<tr>
<td>Within</td>
<td>301.06</td>
<td>156</td>
<td>1.93</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>314.93</td>
<td>161</td>
<td>1.96</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

* Significant at or beyond the .05 level

Concerning attitudes toward high school, the differences among the groups are not significant at the .05 level. The difference between the male and female students is significant at greater than the statistical level. Further analysis indicates the female students had more favorable attitudes on this variable than did the male students. (See Table III).

The data related to required courses in the curriculum are found in Tables VI, VII, VIII, IX, and X. There were five subject areas involved. Each subject was considered
separately. Data related to English as a required subject are presented in Table VI.

### TABLE VI

**ANALYSIS OF VARIANCE OF ATTITUDES TOWARD ENGLISH FOR THREE GROUPS OF HIGH SCHOOL SENIORS**

<table>
<thead>
<tr>
<th>Source</th>
<th>Sum of Squares</th>
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<th>F Ratio</th>
<th>P</th>
</tr>
</thead>
<tbody>
<tr>
<td>Between</td>
<td>61.00</td>
<td>5</td>
<td>12.20</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Groups</td>
<td>23.37</td>
<td>2</td>
<td>11.69</td>
<td>3.55</td>
<td>.03*</td>
</tr>
<tr>
<td>Sex</td>
<td>23.88</td>
<td>1</td>
<td>23.88</td>
<td>7.26</td>
<td>.01**</td>
</tr>
<tr>
<td>GXS</td>
<td>13.75</td>
<td>2</td>
<td>6.88</td>
<td>2.09</td>
<td>.12</td>
</tr>
<tr>
<td>Within</td>
<td>513.40</td>
<td>156</td>
<td>3.29</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>574.40</td>
<td>161</td>
<td>3.57</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

* Significant at or beyond the .05 level  
** Significant at or beyond the .01 level  

The groups differed significantly on this variable. The F ratio of 3.55 indicates a variance at greater than the .05 level of significance. Group I differed from Group II, the Tukey (2) test revealed. From the means shown in Table I, it is determined that Group I had the more favorable attitude toward English. Sex differences are significant at the .01 level. Data from Table III reveals that females had the more favorable attitudes.

The analysis of variance data of attitudes toward mathematics for the three groups are presented in Table VII.
TABLE VII

ANALYSIS OF VARIANCE OF ATTITUDES TOWARD MATHEMATICS FOR THREE GROUPS OF HIGH SCHOOL SENIORS

<table>
<thead>
<tr>
<th>Source</th>
<th>Sum or Squares</th>
<th>df</th>
<th>Mean Square</th>
<th>F Ratio</th>
<th>P</th>
</tr>
</thead>
<tbody>
<tr>
<td>Between Groups</td>
<td>27.20</td>
<td>5</td>
<td>5.44</td>
<td>****</td>
<td>...</td>
</tr>
<tr>
<td>Sex</td>
<td>7.44</td>
<td>2</td>
<td>3.72</td>
<td>.96</td>
<td>.38</td>
</tr>
<tr>
<td>GXS</td>
<td>15.88</td>
<td>1</td>
<td>15.88</td>
<td>4.10</td>
<td>.04*</td>
</tr>
<tr>
<td>Within</td>
<td>3.88</td>
<td>2</td>
<td>1.94</td>
<td>.50</td>
<td>.61</td>
</tr>
<tr>
<td>Total</td>
<td>603.61</td>
<td>156</td>
<td>3.87</td>
<td>****</td>
<td>...</td>
</tr>
</tbody>
</table>

* Significant at or beyond the .05 level

Examination of Table VII indicates that the attitudes on this variable were more homogeneous. The differences among the three groups toward mathematics were not significant. However, male and female students differed significantly on this variable. The data in Table VII indicates the difference was significant at greater than the .05 level. The males held more favorable attitudes, as shown in Table III, than did the females.

The third subject matter area was social studies. Data concerning the attitudes of the three groups are reported in Table VIII.
TABLE VIII

ANALYSIS OF VARIANCE OF ATTITUDES TOWARD
SOCIAL STUDIES FOR THREE GROUPS
OF HIGH SCHOOL SENIORS

<table>
<thead>
<tr>
<th>Source</th>
<th>Sum of Squares</th>
<th>df</th>
<th>Mean Square</th>
<th>F Ratio</th>
<th>P</th>
</tr>
</thead>
<tbody>
<tr>
<td>Between</td>
<td>100.71</td>
<td>5</td>
<td>20.14</td>
<td></td>
<td>...</td>
</tr>
<tr>
<td>Groups</td>
<td>92.81</td>
<td>2</td>
<td>46.41</td>
<td>14.97</td>
<td>.001**</td>
</tr>
<tr>
<td>Sex</td>
<td>3.73</td>
<td>1</td>
<td>3.73</td>
<td>1.20</td>
<td>.27</td>
</tr>
<tr>
<td>GXS</td>
<td>4.17</td>
<td>2</td>
<td>2.09</td>
<td>.67</td>
<td>.51</td>
</tr>
<tr>
<td>Within</td>
<td>483.48</td>
<td>156</td>
<td>3.10</td>
<td></td>
<td>...</td>
</tr>
<tr>
<td>Total</td>
<td>584.19</td>
<td>161</td>
<td>3.63</td>
<td></td>
<td>...</td>
</tr>
</tbody>
</table>

** Significant at or beyond the .001 level

The results of analysis of variance of attitudes toward social studies were quite interesting. These data reveal that College Preparatory, Vocational Preparatory, and General Diploma students differed significantly concerning this subject. The difference was significant at the .001 level. Tukey's test was employed to determine where the difference occurred. This reveals that Group II differed significantly from both Group I and Group III. No significant difference was found between the male students and the female students on this variable.

Another subject matter area in the required curriculum was science. It was hypothesized that the groups and sexes would differ on attitudes toward the required subject of science. The data are presented in Table IX.
TABLE IX
ANALYSIS OF VARIANCE OF ATTITUDES TOWARD SCIENCE FOR THREE GROUPS OF HIGH SCHOOL SENIORS

<table>
<thead>
<tr>
<th>Source</th>
<th>Sum of Squares</th>
<th>df</th>
<th>Mean Square</th>
<th>F Ratio</th>
<th>P</th>
</tr>
</thead>
<tbody>
<tr>
<td>Between</td>
<td>99.88</td>
<td>5</td>
<td>19.98</td>
<td>....</td>
<td>...</td>
</tr>
<tr>
<td>Groups</td>
<td>61.40</td>
<td>2</td>
<td>30.70</td>
<td>8.13</td>
<td>.0004**</td>
</tr>
<tr>
<td>Sex</td>
<td>22.99</td>
<td>1</td>
<td>22.99</td>
<td>6.08</td>
<td>.01*</td>
</tr>
<tr>
<td>GXS</td>
<td>15.38</td>
<td>2</td>
<td>7.74</td>
<td>2.05</td>
<td>.13</td>
</tr>
<tr>
<td>Within</td>
<td>589.38</td>
<td>156</td>
<td>3.78</td>
<td>....</td>
<td>....</td>
</tr>
<tr>
<td>Total</td>
<td>689.25</td>
<td>161</td>
<td>4.28</td>
<td>....</td>
<td>....</td>
</tr>
</tbody>
</table>

* Significant at or beyond the .01 level
** Significant at or beyond the .001 level.

An $F$ ratio of 8.13 on this variable indicates a variance of group attitude toward science at greater than the .001 level of significance. The difference was between Groups I and II. The means reported in Table I indicated that Group I had the more favorable attitudes. An $F$ ratio of 6.08, as shown in Table IX, indicated a variance between the sexes at the .01 level. Further analysis revealed the male students had the more favorable attitudes. (See Table III.)

The last of the subject areas was physical education. The data for this variable are shown in Table X.
### TABLE X

**ANALYSIS OF VARIANCE OF ATTITUDES TOWARD PHYSICAL EDUCATION FOR THREE GROUPS OF HIGH SCHOOL SENIORS**

<table>
<thead>
<tr>
<th>Source</th>
<th>Sum of Squares</th>
<th>df</th>
<th>Mean Square</th>
<th>F Ratio</th>
<th>P</th>
</tr>
</thead>
<tbody>
<tr>
<td>Between</td>
<td>56.31</td>
<td>5</td>
<td>11.26</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Groups</td>
<td>12.90</td>
<td>2</td>
<td>6.45</td>
<td>1.79</td>
<td>.17</td>
</tr>
<tr>
<td>Sex</td>
<td>3.31</td>
<td>1</td>
<td>3.31</td>
<td>.92</td>
<td>.34</td>
</tr>
<tr>
<td>GXS</td>
<td>40.09</td>
<td>2</td>
<td>20.05</td>
<td>5.56</td>
<td>.001*</td>
</tr>
<tr>
<td>Within</td>
<td>562.13</td>
<td>156</td>
<td>3.60</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>618.45</td>
<td>161</td>
<td>3.84</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

* Significant at or beyond the .001 level

An examination of Table X reveals no significant differences among the groups on this variable. Nor is there a significant difference between the sexes. While no differences were found on the main effects, group classification interacted with sex classification to produce an interaction effect significant at the .001 level. This was between the females in Group I, with a mean of 5.98 and the males in Group II whose mean was 7.54. (See Appendix C, Table XXVII.)

A review of the data related to required courses reveals that the groups differed in regard to English, social-studies, and science, but that there were no significant differences on attitudes toward mathematics and physical education. In English social-studies, and science, Group I had more favorable attitudes than did Group II. Group III had more favorable attitudes toward social-studies than did Group II.
Significant differences between the sexes regarding subjects in the required curriculum were found in English, mathematics, and science. Interaction was noted in regard to physical education. Females in Group I differed significantly from males in Groups II.

It was predicted that College Preparatory, Vocational Preparatory, and General Diploma students would differ in their attitudes toward free public secondary education. The data shown in Table XI relate to this variable.

### TABLE XI

**ANALYSIS OF VARIANCE OF ATTITUDES TOWARD FREE PUBLIC SECONDARY EDUCATION FOR THREE GROUPS OF HIGH SCHOOL SENIORS**

<table>
<thead>
<tr>
<th>Source</th>
<th>Sum of Squares</th>
<th>df</th>
<th>Mean Square</th>
<th>F Ratio</th>
<th>P</th>
</tr>
</thead>
<tbody>
<tr>
<td>Between</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Groups</td>
<td>6.03</td>
<td>5</td>
<td>1.21</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Sex</td>
<td>2.71</td>
<td>2</td>
<td>1.36</td>
<td>1.17</td>
<td>.31</td>
</tr>
<tr>
<td>GXS</td>
<td>.62</td>
<td>1</td>
<td>2.70</td>
<td>2.32</td>
<td>.12</td>
</tr>
<tr>
<td>Within</td>
<td>180.81</td>
<td>156</td>
<td>1.16</td>
<td>.27</td>
<td>.77</td>
</tr>
<tr>
<td>Total</td>
<td>186.84</td>
<td>161</td>
<td>1.16</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

An examination of Table XI indicates that there were no significant differences on this variable. There was no significant difference between the male students and the female
students concerning attitudes toward free public secondary education.

It was predicted that College Preparatory, Vocational Preparatory, and General Diploma students would differ significantly on attitudes toward busing to achieve racial integration. The data for this variable are presented in Table XII.

### TABLE XII

**ANALYSIS OF VARIANCE OF ATTITUDES TOWARD BUSING TO ACHIEVE RACIAL INTEGRATION FOR THREE GROUPS OF HIGH SCHOOL SENIORS**

<table>
<thead>
<tr>
<th>Source</th>
<th>Sum of Squares</th>
<th>df</th>
<th>Mean Square</th>
<th>F Ratio</th>
<th>P</th>
</tr>
</thead>
<tbody>
<tr>
<td>Between Groups</td>
<td>56.75</td>
<td>5</td>
<td>11.35</td>
<td>....</td>
<td></td>
</tr>
<tr>
<td>Sex</td>
<td>6.75</td>
<td>1</td>
<td>6.75</td>
<td>2.51</td>
<td>.11</td>
</tr>
<tr>
<td>GXS</td>
<td>49.44</td>
<td>2</td>
<td>24.94</td>
<td>9.30</td>
<td>.0002*</td>
</tr>
<tr>
<td>Within</td>
<td>418.90</td>
<td>156</td>
<td>2.68</td>
<td>....</td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>475.20</td>
<td>161</td>
<td>2.95</td>
<td>....</td>
<td></td>
</tr>
</tbody>
</table>

* Significant at or beyond the .001 level

The low F ratio of .02 as shown in Table XII is not significant. This indicates that the three groups did not differ significantly in attitudes on this measure, nor was significant difference found between the males and females on attitudes toward busing. An interaction term, as shown in Table XII was significant. This was between the females in Group II, who had the more favorable scores, and the males in Groups II and III. The means were 5.33 for the
females; 3.68 for the males in Group II, and 4.03 for the males in Group III.

In summary of Hypothesis I, the results indicate the groups did not differ significantly on attitude toward high school, free public secondary education, and busing to achieve racial integration. Of the five subject areas, on English, social studies, and science, the groups differed significantly. There were no significant differences in mathematics and physical education. Hypothesis I was not fully supported.

Hypothesis II predicted differences between the sexes of the population regarding the attitudes stated in Hypothesis I. Significant differences were found in attitudes toward high school, and the subject matter areas of English, mathematics, and science. There were no significant differences between the sexes regarding attitudes toward free public secondary education nor toward busing to achieve racial integration. The subject matter areas of social studies and physical education were not significantly different. On the basis of these data Hypothesis II was not fully supported.

Data Related to Hypotheses III and IV

Hypothesis III predicted significant differences among College Preparatory (Group I), Vocational Preparatory (Group II), and General Diploma (Group III) students with respect to the frequencies in which the personal problems were checked in the eleven areas of the Mooney Problem Check List. Each area was considered separately.
Hypothesis IV predicted significant differences between the males and females with respect to the frequencies in which the personal problems were checked in the eleven areas of the Mooney Problem Check List. The data in Tables XIII through XXIV relate to these variables.

Differences related to problems in the area of health and physical development were predicted. The analysis of variance of data for this variable are presented in Table XIII.

**TABLE XIII**

**ANALYSIS OF VARIANCE OF PROBLEMS IN THE AREA OF HEALTH AND PHYSICAL DEVELOPMENT FOR THREE GROUPS OF HIGH SCHOOL SENIORS**

<table>
<thead>
<tr>
<th>Source</th>
<th>Sum of Squares</th>
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<th>Mean Square</th>
<th>F Ratio</th>
<th>P</th>
</tr>
</thead>
<tbody>
<tr>
<td>Between</td>
<td>54.22</td>
<td>5</td>
<td>10.84</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Groups</td>
<td>35.40</td>
<td>2</td>
<td>17.70</td>
<td>1.85</td>
<td>.16</td>
</tr>
<tr>
<td>Sex</td>
<td>8.10</td>
<td>1</td>
<td>8.10</td>
<td>.85</td>
<td>.36</td>
</tr>
<tr>
<td>GXS</td>
<td>10.72</td>
<td>2</td>
<td>5.36</td>
<td>.56</td>
<td>.57</td>
</tr>
<tr>
<td>Within</td>
<td>1583.60</td>
<td>166</td>
<td>9.54</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>1637.81</td>
<td>171</td>
<td>9.58</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

An examination of the table indicates that there were no significant differences among the groups in this problem area of the PCL. Moreover, the analysis of variance of problems in the area of health and physical development indicates that the differences between the sexes was not significant.
Finances, living conditions, and employment problems were considered as one of the areas of the Mooney Problem Check List. The data are shown in Table XIV.

**TABLE XIV**

**ANALYSIS OF VARIANCE OF PROBLEMS IN THE AREA OF FINANCES, LIVING CONDITIONS, AND EMPLOYMENT FOR THREE GROUPS OF HIGH SCHOOL SENIORS**

<table>
<thead>
<tr>
<th>Sources</th>
<th>Sum of Squares</th>
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<th>Mean Square</th>
<th>F Ratio</th>
<th>P</th>
</tr>
</thead>
<tbody>
<tr>
<td>Between</td>
<td>52.06</td>
<td>5</td>
<td>10.41</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Groups</td>
<td>7.94</td>
<td>2</td>
<td>3.97</td>
<td>.57</td>
<td>.56</td>
</tr>
<tr>
<td>Sex</td>
<td>1.57</td>
<td>1</td>
<td>1.57</td>
<td>.22</td>
<td>.63</td>
</tr>
<tr>
<td>GXS</td>
<td>42.56</td>
<td>2</td>
<td>21.28</td>
<td>3.04</td>
<td>.06</td>
</tr>
<tr>
<td>Within</td>
<td>1163.44</td>
<td>166</td>
<td>7.00</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>1215.50</td>
<td>171</td>
<td>7.11</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Regarding this variable, there were no differences of statistical significance among the groups. Difference between the sexes was not significant. The interaction term was in the direction of differences but did not reach statistical significance.

Data related to the variable social and recreational activities, another problem area of the Mooney Problem Check List, are presented in Table XV.
### TABLE XV

ANALYSIS OF VARIANCE OF PROBLEMS IN THE AREA OF SOCIAL AND RECREATIONAL ACTIVITIES FOR THREE GROUPS OF HIGH SCHOOL SENIORS

<table>
<thead>
<tr>
<th>Source</th>
<th>Sum of Squares</th>
<th>df</th>
<th>Mean Square</th>
<th>F</th>
<th>P</th>
</tr>
</thead>
<tbody>
<tr>
<td>Between Groups</td>
<td>116.09</td>
<td>5</td>
<td>23.22</td>
<td>...</td>
<td>...</td>
</tr>
<tr>
<td>Sex</td>
<td>81.46</td>
<td>2</td>
<td>40.73</td>
<td>3.94</td>
<td>.02*</td>
</tr>
<tr>
<td>GXS</td>
<td>32.61</td>
<td>1</td>
<td>32.61</td>
<td>3.15</td>
<td>.07</td>
</tr>
<tr>
<td>Within</td>
<td>1716.80</td>
<td>166</td>
<td>10.34</td>
<td>...</td>
<td>...</td>
</tr>
<tr>
<td>Total</td>
<td>1832.89</td>
<td>171</td>
<td>10.72</td>
<td>...</td>
<td>...</td>
</tr>
</tbody>
</table>

* Significant at or beyond the .05 level

The data in Table XV indicate there were significant differences among the groups for this variable. The Tukey test revealed the difference was between Group II, who had more problems, and Group III.

There was no significant difference between the males and females in this problem area, as the data in Table XV indicates.

Differences were predicted in problem area of social-psychological relations. The data for this variable are presented in Table XVI.

### TABLE XVI

ANALYSIS OF VARIANCE OF PROBLEMS IN THE AREA OF SOCIAL-PSYCHOLOGICAL RELATIONS FOR THREE GROUPS OF HIGH SCHOOL SENIORS

<table>
<thead>
<tr>
<th>Source</th>
<th>Sum of Squares</th>
<th>df</th>
<th>Mean Square</th>
<th>F</th>
<th>P</th>
</tr>
</thead>
<tbody>
<tr>
<td>Between Groups</td>
<td>141.60</td>
<td>5</td>
<td>28.32</td>
<td>...</td>
<td>...</td>
</tr>
<tr>
<td>Sex</td>
<td>22.45</td>
<td>2</td>
<td>11.22</td>
<td>1.31</td>
<td>.27</td>
</tr>
<tr>
<td>GXS</td>
<td>26.21</td>
<td>1</td>
<td>26.21</td>
<td>3.06</td>
<td>.08</td>
</tr>
<tr>
<td>Within</td>
<td>1419.48</td>
<td>166</td>
<td>8.55</td>
<td>5.43</td>
<td>.01*</td>
</tr>
<tr>
<td>Total</td>
<td>1561.08</td>
<td>171</td>
<td>9.13</td>
<td>...</td>
<td>...</td>
</tr>
</tbody>
</table>

* Significant at or beyond the .01 level
The low value of $F$, as shown in Table XVI, indicates that differences in the area of social-psychological relations were not significant among the groups nor between the sexes. The interaction noted in Table XVI was between the females in Group II, with a mean of 4.69, and the males in Group III, with a mean of 2.00.

The analysis of variance data of problems in the area of personal-psychological relations is shown in Table XVII.

**TABLE XVII**

**ANALYSIS OF VARIANCE OF PROBLEMS IN THE AREA OF PERSONAL-PSYCHOLOGICAL RELATIONS FOR THREE GROUPS OF HIGH SCHOOL SENIORS**

<table>
<thead>
<tr>
<th>Source</th>
<th>Sum of Squares</th>
<th>df</th>
<th>Mean Square</th>
<th>F Ratio</th>
<th>P</th>
</tr>
</thead>
<tbody>
<tr>
<td>Between</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Groups</td>
<td>147.80</td>
<td>5</td>
<td>29.56</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Groups</td>
<td>29.20</td>
<td>2</td>
<td>14.60</td>
<td>1.09</td>
<td>.34</td>
</tr>
<tr>
<td>Sex</td>
<td>67.30</td>
<td>1</td>
<td>67.30</td>
<td>5.00</td>
<td>.03*</td>
</tr>
<tr>
<td>GXS</td>
<td>51.31</td>
<td>2</td>
<td>25.66</td>
<td>1.91</td>
<td>.15</td>
</tr>
<tr>
<td>Within</td>
<td>2232.26</td>
<td>166</td>
<td>13.91</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>2380.06</td>
<td>171</td>
<td>13.45</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

* Significant at or beyond the .05 level

The data shown in Table XVII indicates that differences among the groups did not reach statistical significance. However, it was found that difference between the sexes was significant at greater than the .05 level. Data shown in Table III, page seventy-one, indicates that female students checked more problems in this area than did male students.
Problems in the area of courtship, sex, and marriage are considered in the PCL. Analysis of variance data relating to this variable are presented in Table XVIII.

**TABLE XVIII**

**ANALYSIS OF VARIANCE OF PROBLEMS IN THE AREA OF COURTSHIP, SEX, AND MARRIAGE FOR THREE GROUPS OF HIGH SCHOOL SENIORS**

<table>
<thead>
<tr>
<th>Source</th>
<th>Sum of Squares</th>
<th>df</th>
<th>Mean Square</th>
<th>F Ratio</th>
<th>P</th>
</tr>
</thead>
<tbody>
<tr>
<td>Between</td>
<td>104.88</td>
<td>5</td>
<td>20.98</td>
<td>⋯</td>
<td>⋯</td>
</tr>
<tr>
<td>Groups</td>
<td>48.10</td>
<td>2</td>
<td>24.05</td>
<td>1.87</td>
<td>.16</td>
</tr>
<tr>
<td>Sex</td>
<td>54.36</td>
<td>1</td>
<td>54.36</td>
<td>4.22</td>
<td>.04*</td>
</tr>
<tr>
<td>GXS</td>
<td>2.41</td>
<td>2</td>
<td>1.21</td>
<td>.09</td>
<td>.91</td>
</tr>
<tr>
<td>Within</td>
<td>2139.48</td>
<td>166</td>
<td>12.89</td>
<td>⋯</td>
<td>⋯</td>
</tr>
<tr>
<td>Total</td>
<td>2244.35</td>
<td>171</td>
<td>13.12</td>
<td>⋯</td>
<td>⋯</td>
</tr>
</tbody>
</table>

* Significant at or beyond the .05 level

An investigation of Table XVIII reveals no significant differences among the groups in the problem area of courtship, sex, and marriage. The fact that this was a problem area for all groups is revealed in Table II, page seventy, where it was the second highest ranked problem area for all groups as a whole. Group I had a mean frequency of 4.77; Group II had the greatest number of problems, with a mean frequency of 6.10; and Group III had a mean frequency of 4.98 in this area.

There was a significant difference between the sexes in the area of courtship, sex, and marriage. The data shown in Table XVIII indicates a difference at greater than the
.05 level. Further study of the data (see Table III, page seventy-one) indicates this problem area was of more concern to the females than to the males in the study.

Significant differences among the groups, with regard to home and family problems, were predicted. An analysis of variance of this variable is shown in Table XIX.

TABLE XIX

ANALYSIS OF VARIANCE OF PROBLEMS IN THE AREA OF HOME AND FAMILY FOR THREE GROUPS OF HIGH SCHOOL SENIORS

<table>
<thead>
<tr>
<th>Source</th>
<th>Sum of Squares</th>
<th>df</th>
<th>Mean Square</th>
<th>F Ratio</th>
<th>P</th>
</tr>
</thead>
<tbody>
<tr>
<td>Between</td>
<td>64.17</td>
<td>5</td>
<td>12.83</td>
<td>....</td>
<td>...</td>
</tr>
<tr>
<td>Groups</td>
<td>17.58</td>
<td>2</td>
<td>8.84</td>
<td>.46</td>
<td>.63</td>
</tr>
<tr>
<td>Sex</td>
<td>3.25</td>
<td>1</td>
<td>3.25</td>
<td>.17</td>
<td>.68</td>
</tr>
<tr>
<td>GXS</td>
<td>43.24</td>
<td>2</td>
<td>21.62</td>
<td>1.12</td>
<td>.33</td>
</tr>
<tr>
<td>Within</td>
<td>3195.74</td>
<td>166</td>
<td>19.25</td>
<td>....</td>
<td>...</td>
</tr>
<tr>
<td>Total</td>
<td>3259.91</td>
<td>171</td>
<td>19.06</td>
<td>....</td>
<td>...</td>
</tr>
</tbody>
</table>

Again, there were no significant differences among the groups, but rather, it seemed that all groups considered this a problem area. It was ranked third according to the group means shown in Table II, page seventy. The data related to this problem area indicate no significant difference between the sexes.

Problems in the area of morals and religion were part of the PCL. Table XX presents data related to this variable.
TABLE XX

ANALYSIS OF VARIANCE OF PROBLEMS IN THE AREA OF
MORALS AND RELIGION FOR THREE GROUPS
OF HIGH SCHOOL SENIORS

<table>
<thead>
<tr>
<th>Source</th>
<th>Sum of Squares</th>
<th>df</th>
<th>Mean Square</th>
<th>F Ratio</th>
<th>P</th>
</tr>
</thead>
<tbody>
<tr>
<td>Between</td>
<td>60.09</td>
<td>5</td>
<td>12.02</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Groups</td>
<td>4.96</td>
<td>2</td>
<td>2.48</td>
<td>.32</td>
<td>.72</td>
</tr>
<tr>
<td>Sex</td>
<td>23.62</td>
<td>1</td>
<td>23.62</td>
<td>3.05</td>
<td>.08</td>
</tr>
<tr>
<td>GXS</td>
<td>31.50</td>
<td>2</td>
<td>15.75</td>
<td>2.03</td>
<td>.13</td>
</tr>
<tr>
<td>Within</td>
<td>1285.47</td>
<td>166</td>
<td>7.74</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>1345.56</td>
<td>171</td>
<td>7.87</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

The data shown in Table XX indicate no significant differences among the groups in the area of morals and religion. There was no significant difference between the male and female students on this variable.

Significant differences among the groups was predicted with respect to the frequencies in which they would check personal problems in the area of adjustment to school work. Table XXI shows the analysis of variance data for this area.

TABLE XXI

ANALYSIS OF VARIANCE OF PROBLEMS IN THE AREA
OF ADJUSTMENT TO SCHOOL WORK FOR THREE
GROUPS OF HIGH SCHOOL SENIORS

<table>
<thead>
<tr>
<th>Source</th>
<th>Sum of Squares</th>
<th>df</th>
<th>Mean Square</th>
<th>F Ratio</th>
<th>P</th>
</tr>
</thead>
<tbody>
<tr>
<td>Between</td>
<td>239.24</td>
<td>5</td>
<td>47.85</td>
<td>4.02</td>
<td>.02*</td>
</tr>
<tr>
<td>Groups</td>
<td>178.27</td>
<td>2</td>
<td>89.13</td>
<td>.70</td>
<td>.40</td>
</tr>
<tr>
<td>Sex</td>
<td>15.62</td>
<td>1</td>
<td>15.62</td>
<td>1.02</td>
<td>.36</td>
</tr>
<tr>
<td>GXS</td>
<td>45.35</td>
<td>2</td>
<td>22.68</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Within</td>
<td>3677.59</td>
<td>166</td>
<td>22.15</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>3916.83</td>
<td>171</td>
<td>22.91</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

* Significant at or beyond the .05 level
The F ratio of 4.02 reveals that the difference between the groups probably did not occur by chance. The Tukey test for multiple comparisons was used for further analysis. This revealed that the difference occurred between Group I and Group II, with Group II having more problems. The difference was significant at greater than the .05 level. The data presented in Table XXI reveals no significant difference between the sexes in the area of adjustment to school work.

It was predicted that College Preparatory, Vocational Preparatory, and General Diploma students would differ significantly on the frequency with which they checked problems in the area of the future: vocational and educational, as presented in the PCL. The data for this variable are presented in Table XXII.

**TABLE XXII**

**ANALYSIS OF VARIANCE OF PROBLEMS IN THE AREA OF THE FUTURE: VOCATIONAL AND EDUCATIONAL FOR THREE GROUPS OF HIGH SCHOOL SENIORS**

<table>
<thead>
<tr>
<th>Sources</th>
<th>Sum of Squares</th>
<th>df</th>
<th>Mean Square</th>
<th>F Ratio</th>
<th>P</th>
</tr>
</thead>
<tbody>
<tr>
<td>Between</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Groups</td>
<td>202.28</td>
<td>5</td>
<td>40.46</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Sex</td>
<td>181.71</td>
<td>2</td>
<td>90.86</td>
<td>5.61</td>
<td>.0044*</td>
</tr>
<tr>
<td>GXS</td>
<td>3.41</td>
<td>1</td>
<td>3.41</td>
<td>.21</td>
<td>.65</td>
</tr>
<tr>
<td>Within</td>
<td>2686.99</td>
<td>166</td>
<td>16.19</td>
<td>.53</td>
<td>.59</td>
</tr>
<tr>
<td>Total</td>
<td>2889.27</td>
<td>171</td>
<td>16.90</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

* Significant at or beyond the .0001 level
An examination of the data presented in Table XXII reveals that the three groups of the study differed at the highly significant level of .001 in the problem area of the future: vocational and educational. The Tukey test revealed that the difference was between Group I and Group II. Group II had the greater number of problems, as shown in Table II, page seventy-one. However, the difference between the males and females regarding this problem area was not significant.

Differences among the three groups in the problem area of curriculum and teaching procedures were predicted. Table XXIII shows the analysis of variance data for this variable.

TABLE XXIII

ANALYSIS OF VARIANCE OF PROBLEMS IN THE AREA OF CURRICULUM AND TEACHING PROCEDURES FOR THREE GROUPS OF HIGH SCHOOL SENIORS

<table>
<thead>
<tr>
<th>Source</th>
<th>Sum of Squares</th>
<th>df</th>
<th>Mean Square</th>
<th>F Ratio</th>
<th>P</th>
</tr>
</thead>
<tbody>
<tr>
<td>Between</td>
<td>285.94</td>
<td>5</td>
<td>57.19</td>
<td>....</td>
<td>....</td>
</tr>
<tr>
<td>Groups</td>
<td>55.84</td>
<td>2</td>
<td>27.92</td>
<td>1.42</td>
<td>.24</td>
</tr>
<tr>
<td>Sex</td>
<td>5.80</td>
<td>1</td>
<td>5.80</td>
<td>.30</td>
<td>.58</td>
</tr>
<tr>
<td>GXS</td>
<td>224.29</td>
<td>2</td>
<td>112.15</td>
<td>5.70</td>
<td>.004*</td>
</tr>
<tr>
<td>Within</td>
<td>3263.66</td>
<td>166</td>
<td>19.66</td>
<td>....</td>
<td>....</td>
</tr>
<tr>
<td>Total</td>
<td>3549.60</td>
<td>171</td>
<td>20.76</td>
<td>....</td>
<td>....</td>
</tr>
</tbody>
</table>

* Significant at or beyond the .01 level

An investigation of the data indicates that the differences among the groups were not significant. Nor was the difference between the sexeses significant as a main effect. However, the interaction term was significant between the
high frequency of problems checked by the males in Group II, whose mean was 6.91, and the low frequency of Group III males, with a mean of 3.00, and Group II females, with a mean of 3.28.

In summary, Hypothesis III predicted significant differences among College Preparatory, Vocational Preparatory, and General Diploma students on the frequencies of problems checked on the eleven areas of the Mooney Problem Check List. The data reveals that, after analysis of variance were computed, only in the areas of social and recreational activities, adjustment to school work, and the future: vocational and educational, were differences found to be significant at the .05 level of significance. In the areas of health and physical development; finances, living conditions, and employment; social-psychological relations; courtship, sex and marriage; home and family; morals and religion; and curriculum and teaching procedures, significant differences were not found between the groups. On the basis of these data, the hypothesis was not fully supported.

Further analyses using the Tukey test indicate that Group II differed from Group III on the variable dealing with social and recreational activities. The differences in the problem areas of adjustment to school work, and the future: vocational and educational, occurred between Group I and
Group II. In all three situations Group II, the Vocational Preparatory students, had significantly more problems than the groups with which they differed.

Hypothesis IV predicted that male and female students would differ statistically on the frequency with which they checked the eleven problem areas of the Mooney Problem Check List. Only in the areas of personal-psychological relations, and courtship, sex, and marriage problems were significant differences found. In these areas, the females indicated more problems than did the males. There was a trend noted between the sexes in the area of social and recreational activities, but it was not statistically significant.

No significant differences were found in the following problem areas: health and physical development; finances, living conditions, and employment; social and recreational activities; home and family; morals and religion; adjustment to school work; the future; vocational and educational; and curriculum and teaching procedures. On the basis of these findings, Hypothesis IV was not fully supported.

A graphic summary of the total problems of the students in this study is presented in Table XXIV. These data represent the combined variables of the Mooney Problem Check List.
TABLE XXIV

ANALYSIS OF VARIANCE OF TOTAL NUMBER OF PROBLEMS CHECKED ON THE PCL BY THREE GROUPS OF HIGH SCHOOL SENIORS

<table>
<thead>
<tr>
<th>Source</th>
<th>Sum of Squares</th>
<th>df</th>
<th>Mean Square</th>
<th>F Ratio</th>
<th>P</th>
</tr>
</thead>
<tbody>
<tr>
<td>Between Groups</td>
<td>5769.10</td>
<td>5</td>
<td>1153.82</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Sex</td>
<td>.15</td>
<td>1</td>
<td>.15</td>
<td>3.22</td>
<td>.04*</td>
</tr>
<tr>
<td>GXS</td>
<td>565.90</td>
<td>2</td>
<td>282.95</td>
<td>.35</td>
<td>.70</td>
</tr>
<tr>
<td>Within</td>
<td>134252.92</td>
<td>166</td>
<td>808.75</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>140022.02</td>
<td>171</td>
<td>818.84</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

* Significant at or beyond the .05 level

An investigation of this table reveals that the groups differed at greater than the .05 level of significance. The difference was between Group I and Group II. The data shown in Table II, page seventy, discloses that Group I had a smaller mean number of problems than did Groups II and III, and Group III had fewer checked problems than Group II. Difference between males and females on the total number of problems checked did not reach statistical significance.

Data Related to Hypothesis V Through X

Hypothesis V predicted differences between the male and female students in Group I regarding the variables stated in Hypothesis I. These were attitudes toward high school, the required courses in the curriculum, free public secondary education, and busing to achieve racial integration. The data shown in Table XXV concerns Hypothesis V.
TABLE XXV
ANALYSIS OF VARIANCE INDICATING SEX DIFFERENCES OF PMAS VARIABLES FOR THREE GROUPS OF HIGH SCHOOL STUDENTS

<table>
<thead>
<tr>
<th>PMAS Variable</th>
<th>Tukey's Range Statistic</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Group I</td>
</tr>
<tr>
<td>High school attitude</td>
<td>1.06</td>
</tr>
<tr>
<td>English</td>
<td>1.27</td>
</tr>
<tr>
<td>Mathematics</td>
<td>1.27</td>
</tr>
<tr>
<td>Social studies</td>
<td>1.14</td>
</tr>
<tr>
<td>Science</td>
<td>1.36</td>
</tr>
<tr>
<td>Physical education</td>
<td>1.38</td>
</tr>
<tr>
<td>Free public secondary education</td>
<td>.75</td>
</tr>
<tr>
<td>Busing to achieve racial integration</td>
<td>1.05</td>
</tr>
</tbody>
</table>

* Significant at or beyond the .05 level

No significant differences between the sexes were found, as is shown by the data in Table XXV. The hypothesis was not supported.

Hypothesis VI stated that the males and females in Group II would differ on the variables stated in Hypothesis I. Significant differences were found in the subject areas of mathematics and physical education, and busing to achieve racial integration. No significant differences were found relating to the other variables. These data are presented in Table XXV. The hypothesis was not fully supported.

Hypothesis VII stated that there would be significant differences between the male and female students in Group III in regard to variables stated in Hypothesis I. An in-
vestigation of the data in Table XXV reveals that these students did not differ significantly on the attitudes tested. Thus, Hypothesis VII was rejected.

Hypothesis VIII stated that the frequencies of the personal problems checked in the eleven variables of the PCL would differ significantly between the male and the female students in Group I. An analysis of variance indicating such differences is presented in Table XXVI.

TABLE XXVI
ANALYSIS OF VARIANCE INDICATING SEX DIFFERENCES OF PCL VARIABLES FOR THREE GROUPS OF HIGH SCHOOL STUDENTS

<table>
<thead>
<tr>
<th>PCL Variable</th>
<th>Group I</th>
<th>Group II</th>
<th>Group III</th>
</tr>
</thead>
<tbody>
<tr>
<td>Health and physical development</td>
<td>1.97</td>
<td>2.01</td>
<td>2.22</td>
</tr>
<tr>
<td>Finances, living conditions and employment</td>
<td>1.82</td>
<td>1.86</td>
<td>2.00</td>
</tr>
<tr>
<td>Social-recreational relations</td>
<td>2.21</td>
<td>2.09</td>
<td>2.21</td>
</tr>
<tr>
<td>Personal-psychological relations</td>
<td>2.34</td>
<td>2.77</td>
<td>2.71</td>
</tr>
<tr>
<td>Courtship, sex, and marriage</td>
<td>2.30</td>
<td>2.52</td>
<td>2.65</td>
</tr>
<tr>
<td>Home and family</td>
<td>3.16</td>
<td>3.22</td>
<td>3.15</td>
</tr>
<tr>
<td>Morals and religion</td>
<td>1.78</td>
<td>1.81</td>
<td>2.10</td>
</tr>
<tr>
<td>Adjustment to school work</td>
<td>3.25</td>
<td>3.06</td>
<td>3.24</td>
</tr>
<tr>
<td>The future: vocational and educational</td>
<td>2.57</td>
<td>2.62</td>
<td>2.56</td>
</tr>
<tr>
<td>Curriculum and teaching procedures</td>
<td>3.06</td>
<td>3.35*</td>
<td>3.18</td>
</tr>
<tr>
<td>Total number of problems</td>
<td>18.18</td>
<td>18.50</td>
<td>18.17</td>
</tr>
</tbody>
</table>

* Significant at or beyond the .05 level
An analysis of the data in Table XXVI reveals that the students did not differ significantly on the problem areas of the Mooney Problem Check List. This hypothesis was not supported.

Hypothesis IX stated that the males in Group II would differ from the females in the frequencies of problems checked in the eleven areas of the PCL. An examination of the data in Table XXVI indicates that the students in Group II differed significantly in the area of curriculum and teaching procedures. The males checked more problems than did the females. Other differences did not reach statistical significance. The hypothesis was not fully supported.

Hypothesis X stated that the males in Group III would differ significantly from the females in that group concerning the frequencies of problems checked in the eleven areas of the PCL. An investigation of the data in Table XXVI reveals that the students in Group III did not differ significantly. The hypothesis was not supported.

Non-Hypothesized Data

Although hypotheses were not stated concerning these variables, grade-point averages and ages were analyzed. Of the three, Group I had a grade-point average high enough to be significantly different from Groups II and III. Females had a significantly higher GPA than the males. For both comparisons, the significance was at or beyond the .0001 level. The $F$ value was 16.50 for the variance among groups.
The $F$ value of 22.55 indicates that the variance was even greater between the males and females.

Group I, younger than Groups II and III, differed significantly from those groups on the age variable. Females were significantly younger than the males. The significance was at or beyond the .05 level for both group and sex differences.
CHAPTER BIBLIOGRAPHY


CHAPTER V

SUMMARY, CONCLUSIONS, IMPLICATIONS, AND RECOMMENDATIONS

Summary

This research study was an investigation of the attitudes and personal problems of three groups of high school students. Specifically, attitudes toward high school, required courses in the curriculum, free public secondary education, and busing to achieve racial integration were examined. Eleven areas of personal problems were also examined.

The purposes of this study were 1) to discover the degree of satisfaction with school and to determine if some groups of students were more satisfied than others, 2) to identify the areas of the curriculum that seemed irrelevant to students and to explore the possibility of curriculum change in view of these data, 3) to identify the areas of the curriculum toward which students held positive or negative attitudes, 4) to identify the areas of personal problems that were of most concern to students, and 5) to provide data that may be helpful to school personnel in planning for better high school programs.

A total of 172 randomly selected seniors attending a selected comprehensive high school participated in the study. Based on the data from the cumulative folders, the students were classified as College Preparatory, Group I; Vocational
Preparatory, Group II; and General Diploma, Group III. In the spring semester of the 1971-72 school year, the Purdue Master Attitude Scales and the Mooney Problem Check List were administered to the three groups. Scores from these measures, as well as ages and grade-point averages, were processed by the North Texas State University Computer Center. These data were the bases for accepting or rejecting the hypotheses stated in Chapter I.

A detailed introductory discussion was presented in the first chapter. Literature relevant to the study was reported in Chapter II. In that chapter general attitude studies, PMAS studies, personal problems studies, and PCL studies were reviewed. Methods and procedures for data collection and treatment were outlined in Chapter III. Descriptions of the students, the school, and the instruments used in the study were included. Data were presented and analyzed in Chapter IV. Tables were prepared to present the data graphically.

Two-dimensional analysis of variance was used to determine if the three groups were significantly different. Where statistical differences were found, Tukey's test was applied to ascertain where the variance occurred. This same statistical design was used to test for significant differences between the attitudes and personal problems of the male and female students. The .05 level of significance was selected as the point for rejection of the hypotheses.
Each of the ten hypotheses was considered in Chapter IV. Tables showing analyses of variance were presented in relation to the hypotheses.

Findings

Results of these analyses are summarized in the following statements:

1. Hypothesis I predicted group differences in attitudes toward high school, required courses in the curriculum, free public secondary education, and busing to achieve racial integration. All groups had favorable attitudes toward high school. Group II had the most favorable attitudes and Group III the least favorable attitudes. However, the differences among the groups did not reach statistical significance.

2. All groups had favorable attitudes toward English as a school subject. Group I had the most favorable attitudes of the three groups. The only significant difference among the groups was between Group I and Group II.

3. All groups had favorable attitudes toward mathematics. Group I had the most favorable attitudes of the three groups. The only significant difference among the groups was between Group I and Group II.

4. Groups I and III were not significantly different from each other in their favorable attitudes toward social studies, however, Group II differed significantly from both, with its unfavorable attitudes.
5. Groups I and III had favorable attitudes toward science, but Group II had unfavorable attitudes. The only significant difference was between Groups I and II.

6. All groups had slightly favorable attitudes toward physical education. Group III had the most favorable and Group I the least favorable attitudes, but the groups did not differ significantly.

7. All groups had favorable attitudes toward free public secondary education. Group I had the most favorable and Group III the least favorable attitudes, but the groups did not differ significantly.

8. All groups had unfavorable attitudes toward busing to achieve racial integration. Group II had the most favorable and Group I had the least favorable attitudes, but the groups did not differ significantly.

9. Hypothesis II predicted sex differences in attitudes stated in Hypothesis I. Females had significantly more favorable attitudes toward high school and English than did the males in the study. Males had significantly more favorable attitudes toward mathematics and science than the females had for these subjects.

10. There were no significant differences between the sexes regarding attitudes toward social studies, physical education, free public secondary education, and busing to achieve racial integration.
11. Hypothesis III predicted differences among the groups on the eleven problem areas of the Mooney Problem Check List. These areas, ranked from greatest mean frequency for all groups to least mean frequency were 1) the future: vocational and educational; 2) courtship, sex, and marriage; 3) home and family; 4) health and physical development; 5) social and recreational activities; 6) curriculum and teaching procedures; 7) personal-psychological relations; 8) adjustment to school work; 9) social-psychological relations; 10) finances, living conditions, and employment; and 11) morals and religion.

12. Significant differences were found in two problem areas. In the area of social and recreational activities, Group II checked significantly more problems than did Group I. In the area of adjustment to school work, Group II checked significantly more problems than did Group I. There was also a significant difference between Group I and Group II in the total number of problems checked. Group II checked more problems.

13. Hypothesis IV predicted sex differences on the frequency of problems checked on the Mooney Problem Check List. Female students checked significantly more problems in the areas of personal-psychological relations, and courtship, sex, and marriage. There were no significant differences in the other problem areas.

14. Hypothesis V predicted significant differences between the males and females in Group I in relation to the
attitudes stated in Hypothesis I. No significant differences were found.

15. Hypothesis VI predicted significant differences between the males and females in Group II in relation to the attitudes stated in Hypothesis I. Females had significantly more favorable attitudes toward English and busing to achieve racial integration. Males had more favorable attitudes toward physical education. No significant differences were found on the other variables.

16. Hypothesis VII predicted significant differences between the males and females in Group III in relation to the attitudes stated in Hypothesis I. No significant differences were found.

17. Hypothesis VIII predicted significant differences between the males and females in Group I in relation to the problem areas of the Mooney Problem Check List. No significant differences were found.

18. Hypothesis IX predicted significant differences between the males and females in Group II in relation to the problem areas of the Mooney Problem Check List. Males checked significantly more problems in the area of curriculum and teaching procedures than did the females. No other differences were significant.

19. Hypothesis X predicted significant differences between the males and females in Group III in relation to the problem areas of the Mooney Problem Check List. No significant differences were found.
Conclusions

An examination of the findings led to the following conclusions:

1. Regardless of the course of study followed by high school students, they had many things in common. College Preparatory and General Diploma students were very much alike in the areas tested in the study. This led to the conclusion that there were only two identifiable groups in this population, College Preparatory and Vocational Preparatory.

2. Current curriculum requirements did not seem to be appropriate for all students. The findings seemed to indicate a need for more relevant content and experiences for some students, especially the Vocational Preparatory Students.

3. The required curriculum seemed more appropriate for College Preparatory students than for Vocational Preparatory and General Diploma Students.

4. Except in the areas of science and mathematics, the required curriculum seemed more appropriate for female students.

5. It was not uncommon for students to have unfavorable attitudes toward some required courses but to have favorable attitudes toward school in general. Therefore, variables other than course requirements probably influence their attitudes.

6. Problems related to the three most prevalent areas, namely, the future: vocational and educational; courtship, sex, and marriage; and home and family seemed to point to
a concern for the uncertainties of a complex, changing society, in which peer and interpersonal relations were important.

7. Vocational Preparatory students usually seemed to have more problems and have the least favorable attitudes toward required courses in the curriculum. However, they had the most favorable attitudes toward high school in general of the three groups. Thus, indications were that something other than the required courses brought about the favorable attitudes toward high school.

Implications and Recommendations

Certain implications and recommendations were formulated from this study:

1. High school provides a meeting ground for students who will pursue different post-graduate plans. Vocational Preparatory students may have somewhat different needs than other students, but the common needs are being met successfully by the comprehensive high school. Evidence seems to support the contention that the needs of the students can be met within the structure of the comprehensive high school.

2. Attitudes appear to affect the degree of cognitive learning that takes place in the classroom. School personnel need to determine and to consider the attitudes of students regarding subject matter areas and co-curricular activities in curriculum planning. It seems that school districts should place priority on obtaining this information for planning.
3. Where courses seem irrelevant or inappropriate to the students, curriculum committees should study the teaching methods, materials, objectives, and classroom activities to determine where improvement should be made. Students should be an important component of the committee membership.

4. In addition to the traditional preparation of young people for college, the high schools should also make every effort to enrich the curriculum for non-college bound students by reviewing required courses for possible alterations that would more nearly meet the needs of Vocational Preparatory students.

5. In order to bring about more favorable attitudes toward curriculum requirements, graduation course requirements or activities within the courses may need to be changed.

6. More attention should be given to the unique interests and skills of male students in planning curricula, course content, and activities in order to improve their attitudes toward school.

7. Where unfavorable attitudes were found, it is recommended that the school district initiate an in-depth study to determine the causes and to propose solutions.

8. For students who have serious concerns about their futures and interpersonal relations, it is recommended that units of study in these areas may be helpful in allowing them an opportunity to better understand themselves and others in relation to today's social environment.
Recommendations for Further Research

The following recommendations for further study are made:

1. A replication of this study including more students from a number of other high schools should be undertaken to determine whether the data are supported in other locations.

2. A replication of this study should be made using a population which includes all grade levels in high school to see if differences exist among groups in grades other than the senior level.

3. In view of the many similarities between the College Preparatory and General Diploma students, studies using other instruments and measuring other variables should be undertaken to determine what, if any, areas differentiate these students from each other.

4. Where negative attitudes were found within a student population, studies should be made to determine why the attitudes were negative in order that remediation may be proposed.

5. The needs of Vocational Preparatory students should be identified in an effort to make their high school programs more satisfactory. Research should also be undertaken to discover what they consider favorably about high school.

6. A study of the attitudes and personal problems of middle and junior high school students should be made to provide data that may be used by curriculum planners to increase the holding power of students from those schools.
APPENDIX A

The following are samples of the Purdue Master Attitude Scales used in this study. They are unique in that the attitudes tested apply only to this study.

The Mooney Problem Check List is not included here because it was used as published.
HIGH SCHOOL ATTITUDE SCALE

Form A

Edited by H. H. Remmers

Date ______________________

Name (optional) ____________________________ Sex (circle one)  M  F

Age ___________ Grade ______________________

Directions: Below is a list of seventeen statements about school. Place a check mark before each statement with which you agree, and leave unmarked those with which you disagree. This test will in no way affect your standing in school.

1. A high school education is worth a million dollars to any young person.

2. High school develops self-reliance.

3. A high school education will help one to be a good citizen.

4. It helps one to get a job if he has a high school diploma.

5. I like to do school work.

6. I would rather go to high school than to stay at home.

7. I don't like to associate with people who haven't a high school education.

8. High school has its drawbacks, but I like to go.

9. I don't care about high school, but I think one ought to.

10. High school is all right, but I don't like it.

11. High school may be all right, but I don't think it does any good.

12. There are too many rules and regulations in schools.

13. My classes are very uninteresting.

14. I can learn more working on a job than in high school.

15. A high school graduate is often worse off morally than he was before going to high school.

16. In high school, pupils learn to disrespect everything of high idealistic character.

17. High school teachers are parasites on the community.

Place a check (√) below along the line to indicate your attitude toward school. A is extremely favorable and K is extremely against. F is neutral and the other letters indicate graded steps between.

A  B  C  D  E  F  G  H  I  J  K

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A SCALE TO MEASURE ATTITUDE TOWARD ANY SCHOOL SUBJECT

Form A

Edited by H. H. Remmers

Date

Name (optional) ___________________________________________ Sex (circle one) M F

Age ___________________________ Grade ___________________________

Directions: Following is a list of statements about school subjects. Put a plus sign (+) before each statement with which you agree about the subjects listed at the left of the statements. The person in charge will tell you the subject or subjects to write in at the head of the columns to the left of the statements. Your score will not affect your grade in any course.

<table>
<thead>
<tr>
<th>Subject</th>
<th>English</th>
<th>Social Studies</th>
<th>Science</th>
<th>Math</th>
<th>Physical Education</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. No matter what happens, this subject always comes first.</td>
<td></td>
<td></td>
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<tr>
<td>2. This subject has an irresistible attraction for me.</td>
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<tr>
<td>3. This subject is profitable to everybody who takes it.</td>
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<tr>
<td>4. Any student who takes this subject is bound to be benefited.</td>
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<tr>
<td>5. This subject is a good subject.</td>
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<tr>
<td>6. All lessons and all methods used in this subject are clear and definite.</td>
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<tr>
<td>7. I am willing to spend my time studying this subject.</td>
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<tr>
<td>8. This subject is a good pastime.</td>
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<td></td>
<td></td>
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</tr>
<tr>
<td>9. I don't believe this subject will do anybody any harm.</td>
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<td></td>
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<tr>
<td>10. I haven't any definite like or dislike for this subject.</td>
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</tr>
<tr>
<td>11. This subject will benefit only the brighter students.</td>
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<td></td>
<td></td>
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</tr>
<tr>
<td>12. My parents never had this subject, so I see no merit in it.</td>
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<td></td>
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<tr>
<td>13. I am not interested in this subject.</td>
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<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>14. This subject reminds me of Shakespeare's play -- &quot;Much Ado About Nothing.&quot;</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>15. I would not advise anyone to take this subject.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>16. This subject is a waste of time.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>17. I look forward to this subject with horror.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
A SCALE FOR MEASURING ATTITUDE TOWARD ANY INSTITUTION

Form A          Edited by H. H. Remmers

Date ________________

Name (optional) ____________________________ Sex (circle one)  M  F

Age ____________________________ Grade ____________________________

Directions: Following is a list of statements about institutions. Place a plus sign (+) before each statement with which you agree about the institution or institutions listed at the left of the statements. The person in charge will tell you the institution or institutions to write in at the head of the columns to the left of the statements. Your score will in no way affect your grade in any course.

1. Exerts a strong influence for good government and right living.
2. Serves society as a whole well.
3. Is necessary to society as organized.
4. Adjusts itself to changing conditions.
5. Is improving with the years.
6. Does more good than harm.
7. Will not harm anybody.
8. Inspires no definite likes or dislikes.
9. Is necessary only until a better one can be found.
10. Is too liberal in its policies.
11. Is losing ground as education advances.
12. Promotes false beliefs and much wishful thinking.
13. Does more harm than good.
14. No one any longer has faith in this institution.
15. Is detrimental to society and the individual.
16. Benefits no one.
17. Has positively no value.
A SCALE FOR MEASURING ATTITUDES TOWARD ANY PROPOSED SOCIAL ACTION

Form A

Edited by H. H. Remmers

Circle your ethnic identification.
Name (optional): Black Chicano White Other
Sex (circle one): M F
Age
Grade

Directions: Following is a list of statements about proposed social actions. Place a plus sign (+) before each statement with which you agree with reference to the proposed social action or actions listed at the left of the statements. The person in charge will tell you the proposed social action or actions to write in at the head of the columns to the left of the statements. Your score will in no way affect your grade in any course.

<table>
<thead>
<tr>
<th>Proposed Social Action</th>
<th>Busing to achieve racial integration</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>1. Will bring lasting satisfaction.</td>
</tr>
<tr>
<td></td>
<td>2. Has unlimited possibilities.</td>
</tr>
<tr>
<td></td>
<td>3. Will solve some of humanity's greatest problems.</td>
</tr>
<tr>
<td></td>
<td>4. Will be an influence for right living.</td>
</tr>
<tr>
<td></td>
<td>5. Is sure to be effective.</td>
</tr>
<tr>
<td></td>
<td>6. Is a practical basis for future planning.</td>
</tr>
<tr>
<td></td>
<td>7. Places great emphasis upon fair-dealing.</td>
</tr>
<tr>
<td></td>
<td>8. Has its merits.</td>
</tr>
<tr>
<td></td>
<td>9. Can not do any serious harm.</td>
</tr>
<tr>
<td></td>
<td>10. Will be all right in some cases.</td>
</tr>
<tr>
<td></td>
<td>11. Cannot meet the demands of a complex social order.</td>
</tr>
<tr>
<td></td>
<td>12. Will cause too much friction.</td>
</tr>
<tr>
<td></td>
<td>13. Will soon become an object of bitter distrust.</td>
</tr>
<tr>
<td></td>
<td>14. Will proceed to injurious limits.</td>
</tr>
<tr>
<td></td>
<td>15. Is a disgrace to society.</td>
</tr>
<tr>
<td></td>
<td>16. Will destroy our best American institutions.</td>
</tr>
<tr>
<td></td>
<td>17. Is perfectly absurd.</td>
</tr>
</tbody>
</table>

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APPENDIX B

The following is a copy of the letter sent to the students who had been randomly selected to participate in the study.
Dear Paschal High School Student,

You are one of approximately 180 senior students who have been selected to participate in a research project that will attempt to study the attitudes and opinions of high school seniors. This research will take two class periods, one during the last week of February and one the first week of March. Your name will not appear on either of the instruments used to determine your attitudes and opinions. There will be absolutely no connection between your responses and your school grades. If you would like to be a part of this research project please fill out the form below and return it to the counselor's office. Drop it in the box marked "Paschal Research Project." You will be contacted about the exact time, dates and place to report.

Thank You,
Ann Arnold
North Texas State University

-------------------------------------------------------------------------------------------------

Name_________________________ Homeroom____________________

Independent Study Period_______
Physical Education Period_______
Elective (Art, Speech, etc.)_______ Period_______ Room_______

(Please return this by February 16, 1972)
APPENDIX C

Table showing means and standard deviations of non-hypothesized interaction between group classification and sex classification.
TABLE XXVII
MEANS AND STANDARD DEVIATIONS OF PMAS SCORES AND PLC FREQUENCIES WHICH SHOWED SIGNIFICANT INTERACTION BETWEEN GROUPS AND SEXES

<table>
<thead>
<tr>
<th>Variables</th>
<th>Group X Sex</th>
<th>Mean</th>
<th>Standard Deviation</th>
</tr>
</thead>
<tbody>
<tr>
<td>PMAS</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Physical education</td>
<td>Group II Males</td>
<td>7.54</td>
<td>0.92</td>
</tr>
<tr>
<td></td>
<td>Group I Females</td>
<td>5.98</td>
<td>2.08</td>
</tr>
<tr>
<td>Busing to achieve racial integration</td>
<td>Group II Females</td>
<td>5.33</td>
<td>1.75</td>
</tr>
<tr>
<td></td>
<td>Group III Males</td>
<td>4.03</td>
<td>1.50</td>
</tr>
<tr>
<td></td>
<td>Group II Males</td>
<td>3.68</td>
<td>1.31</td>
</tr>
<tr>
<td>PLC</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Social-psychological relations</td>
<td>Group II Females</td>
<td>4.69</td>
<td>3.09</td>
</tr>
<tr>
<td></td>
<td>Group III Males</td>
<td>2.00</td>
<td>2.79</td>
</tr>
<tr>
<td>Curriculum and teaching procedures</td>
<td>Group II Males</td>
<td>6.91</td>
<td>5.92</td>
</tr>
<tr>
<td></td>
<td>Group II Females</td>
<td>3.28</td>
<td>2.33</td>
</tr>
<tr>
<td></td>
<td>Group III Males</td>
<td>3.00</td>
<td>2.92</td>
</tr>
</tbody>
</table>
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