

A STUDY OF THE GUIDANCE RESOURCES
OF STUDENTS IN HIGH SCHOOLS AFFILIATED
WITH THE NATIONAL UNION OF CHRISTIAN
SCHOOLS IN MICHIGAN AND ILLINOIS

Thesis for the Degree of Ph. D.
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L. James Harvey

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This is to certify that the

thesis entitled

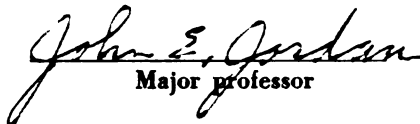
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IN HIGH SCHOOLS AFFILIATED WITH THE
NATIONAL UNION OF CHRISTIAN
SCHOOLS IN MICHIGAN
AND ILLINOIS**

presented by

L. James Harvey

**has been accepted towards fulfillment
of the requirements for**

Ph. D. degree in Education


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4. There will be no differences between Christian school leaders and teachers perceptions of guidance sources the students should use and the students report of sources utilized in the eleven problem areas.

5. There will be no differences between the Christian school students on the basis of grade level, sex, and size of school concerning the sources of guidance they report they use in each of the problem areas.

THE METHODOLOGY

The Mooney Problem Check List, High School Form, 1950 Revision, and a Sources of Guidance Questionnaire, developed for this study in Adult and Student Forms, were the two criterion instruments employed. Each instrument was administered to a 12.5% stratified random sampling of tenth, eleventh, and twelfth grade students in nine "Christian" high schools in Michigan and Illinois. The questionnaire was also given to a sample of students from four public schools matched on the basis of size and location with Christian schools in the study. The Adult Form of the questionnaire was administered to a 25% sampling of the Christian school teachers and to a leader group delineated by the Christian school administrators. The eleven problem areas of the Mooney Problem Check List formed the structure for the development of the questionnaire and for the comparisons made within the study.

The comparisons involving the students' problems were carried out through the use of the median test for two samples. The Sources of Guidance Questionnaire data were contrasted by

employing the chi square test and 2 x 2 contingency table. The .05 level of significance was used to accept or reject hypotheses.

RESULTS

1. There were significant differences between the sexes concerning problems marked but differences were not apparent between students on different grade levels or in different sized schools.
2. There were significant differences between Christian school males and public school males concerning problems checked but only one area of difference between Christian school females and public school females.
3. Christian school leaders and teachers agree concerning the "ideal" primary sources of guidance for Christian school students in ten of the eleven problem areas.
4. There are significant differences between the "ideal" sources of guidance listed by the leaders and teachers and the sources of guidance the students report they do use in over half of the Mooney problem areas.
5. Students of different sexes, grade levels, and sized schools do not differ basically in the sources of guidance they report using.

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MICHIGAN AND ILLINOIS

by

^{Lester}
L. James Harvey

A THESIS

Submitted to
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in partial fulfillment of the requirements
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Guidance and Personnel Services

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Dedicated to my Wife

Jackie

L. James Harvey
Candidate for the degree of
Doctor of Philosophy

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CHAPTER I

THE PROBLEM

The Christian schools in this study, due largely to their conservative religious background, have been cautious and slow to accept innovations in education. This Christian school program is typified by a traditional educational philosophy. Because of this conservative philosophy, the Christian schools have done little in the field of guidance. Currently, there has been an expression of concern about the guidance role of the Christian school system. Christian school leaders are discussing the roles of the school, the home and the church in the guidance of their young people. This study grows from the need for basic information about the guidance of these young people which will aid the leaders in doing a more adequate job of thinking and planning.

STATEMENT OF THE PROBLEM

The present study is concerned with several basic questions related to the guidance of students in high schools affiliated with the National Union of Christian Schools. What types of problems do the students report having in adjustment? How do the problems of the Christian school students differ from those reported by comparable public high school students? Where do Christian school leaders and teachers perceive that

the students should receive aid in solving their problems? Where do the students report they receive their help in the different problem areas? The study will be concerned with the investigation of these questions.

BACKGROUND OF THE CHRISTIAN SCHOOLS

To aid in the orientation to the present study, a brief historical review of the Christian school movement follows. The data for the review has been gathered from two source materials; The Christian Reformed Church by John Kromminga (15) and The Netherlands in America by Henry S. Lucas (17).

In 1847 a group of Dutch immigrants came to America and settled in Holland, Michigan. One of the primary reasons they came was because of state opposition in the Netherlands to establishing denominational education for their children. Soon differences arose within the group as to whether they should unite with the Dutch Reformed Church in America and whether they should set up denominational schools, or attempt to control the public schools in the settlement. The majority decided in favor of uniting with the Dutch Reformed and against setting up denominational schools. A minority group strongly dissented and founded a new denomination called the Christian Reformed. They established their first denominational school in Holland, Michigan, in 1857.

Currently, this system of Christian education includes 221 school units, 42,980 pupils, (kindergarten through twelfth grade) and 1615 teachers in 22 states and three provinces of Canada (5:20). It also includes Calvin College and Seminary located in Grand Rapids, Michigan.

The Christian Reformed denomination in 1947 numbered 31,776 families and 134,608 individuals including baptized children. Though the denomination is found in approximately half of the states in the country, about 50% of the total membership is located in the state of Michigan.

The school system is closely related to the Christian Reformed Church; however, only the college and seminary are administered by the church. The Christian day schools are controlled by parent school societies which are, in fact, non-profit corporations incorporated under state law. The model constitution for these school corporations or societies provides active membership in a society for anyone over twenty-one who contributes at least \$12.00 a year to the society. Memberships are left to the discretion of each society, though they frequently follow the pattern of the model constitution. The basic reason that control of the day schools resides with the school societies rather than the church is a belief that education is the primary responsibility of the parent.

The school societies are autonomous and each has the final authority for its own school. The societies elect a school board which is given authority to carry out the day-to-day business of running the school. In general, the school boards have responsibility for minor policy decisions, with major policy decisions being referred to the school society. The actual delegated power of the board may vary from school to school though in general it follows the above pattern.

The Christian school population is composed of children from the Christian Reformed Church, the Protestant Reformed Church, the Dutch Reformed Church, the Orthodox Presbyterian Church, and a few from other fundamental evangelical churches. Most teachers in this Christian school system receive their training at Calvin College.

The Christian schools are affiliated with the National Union of Christian Schools which has its headquarters in Grand Rapids, Michigan. The main purposes of this organization are to coordinate and promote the Christian school movement. The National Union publishes a monthly magazine, The Christian Home and School, sponsors a scholarship program, conducts research, disseminates information, promotes the writing of textbooks, helps establish new schools, and aids in teacher placement.

JUSTIFICATION OF THE STUDY

There are several justifications for the present study. No adequate description of the problems and sources of help of Christian school students has been made. Nevertheless, there has been extensive discussion within the schools of their role in guidance which necessitates a clarification of the issues involved. When the study was first conceived, it met with the approval of many within the Christian schools and has had the support of the National Union of Christian Schools in the form of supplies, office help, postage, and requests for cooperation in the study. The National Union has agreed to publish the results in The Christian Home and

School. The results should help clarify possible discrepancies between where adults feel the Christian school students should get help with their problems and where the students report they do obtain their help. The study should have implications for the development of school guidance services; it may further aid in curriculum development, parent-child relations, pastoral counseling, and the church instructional program. Lastly, because the study is the first of this type to explore the problem of guidance in the Christian schools, it may provide a basis for further similar research.

HYPOTHESES

Because no similar study has been done in these schools, and because of the lack of specific theory to indicate the direction of differences, a two-tailed test is appropriate. The following broad null hypotheses will be tested:

Hypotheses Concerning Student Problems

1. There will be no differences in the number of total problems and serious problems indicated in each of the eleven Mooney problem areas among Christian school students when compared on the basis of grade level, sex, and size of school.
2. There will be no differences in the number of total problems and serious problems marked in each of the eleven Mooney problem areas between the Christian school students and comparable public school students.

Hypotheses Concerning Guidance Resources

1. There will be no difference between where Christian school leaders and Christian school teachers perceive the students should receive their guidance in the eleven problem areas on the Mooney Problem Check List.

2. There will be no differences between the students on the basis of grade level, sex, and size of school and where they report they do receive their guidance in each of the eleven Mooney problem areas.

3. There will be no differences between where Christian school leaders and teachers perceive the students should receive their guidance and between where the students report they do receive their guidance in each of the eleven Mooney problem areas.

ASSUMPTIONS

It is always necessary to base a study on certain assumptions. In the present study it is assumed:

1. That adolescents face a number of important problems (i.e., problems of vocational-educational choice, personal-social adjustments, etc) during this formative period of life.

2. That adolescents are not capable of solving all of these problems without adult guidance and help.

3. That as adolescents receive better information and guidance, they are more likely to solve their problems in such a manner as to provide fewer anxieties and a happier and more useful life.

4. That in order to provide a workable guidance program, it is necessary for the leaders of a group, those dealing with the students, and the students themselves to be in consistent agreement as to the approved sources of guidance so as to clarify responsibilities and channels of communication.

LIMITATIONS AND SCOPE

Any study of this type has basic limitations. The major limitations of the study are:

1. A questionnaire has inherent limitations. Problems of communication and accurate reporting are recognized. The questionnaire used in this study is anonymous so as to remove the bias of threat; however, while overcoming certain difficulties of signed questionnaires, the anonymity of the instrument added a further limitation in that students could falsify and treat the material in a light manner if they so desired.

2. A student's own report is subject to deficiencies due to possible difficulties in analyzing his experiences and reporting them accurately.

3. A check list may give undue emphasis to trivial problems or to problems that have been temporarily dismissed from the student's mind.

4. A difficulty exists also in the fact that student problems are grouped in eleven areas, and as problems frequently appear in clusters rather than singly, the grouping presents a problem of classification to the student. For instance, an emotional problem of some intensity will not be

self-contained but may make itself felt in the areas of "Personal-Psychological Relations" and/or "Home and Family" as well.

5. A limitation is contained in the fact that for purposes of the study the eleven Mooney problem areas must be summarized for use in designating sources of help and inherent semantic difficulties arise in communicating these areas to the student.

6. The possibility also exists of sampling error inasmuch as sampling techniques were applied. A description of the nature of the limitations of the sample are discussed in Chapter III.

The study will be limited to nine of the ten Christian high schools in Michigan and Illinois. The study originally called for all ten high schools in these two states, but one school asked that they not be included in the study. The study was limited to Michigan and Illinois because a personal administration of the questionnaire was deemed advisable. The study does encompass over 50% of the nation-wide Christian high school students even though restricted to the Midwest. While the study is limited to Michigan and Illinois, the results should have relevance for those Christian high schools in other states. This can be stated because the Christian high schools are much alike wherever they are found. They enroll students from similar social, economic, and racial backgrounds; the large majority of teachers are trained in one college; the curricula are similar and the real leadership within the schools is provided by a few

people in Grand Rapids, Michigan. For these reasons, a study conducted in the Middle West should have applicability to some extent in the Christian schools in other states.

DEFINITION OF TERMS

For purposes of clarification certain terms should be defined. The following definitions will aid in understanding the present study:

1. The Christian schools are defined as those schools affiliated with the National Union of Christian Schools.

2. Christian school leaders are defined as those people perceived to be outstanding leaders in the Christian school movement as determined by a poll of the school administrators within the Christian schools.

3. Christian school teachers are defined as being those involved in teaching (half time or more) within the Christian schools in grades ten, eleven, and twelve.

4. Christian school students are defined as those students in grades ten, eleven, and twelve in regular attendance at one of the nine high schools in Michigan and Illinois affiliated with the National Union of Christian Schools.

5. The problems and problem areas will be those designated on the Mooney Problem Check List, High School Form, 1950 revision.

6. The schools in the study are classified by size into classes A, B, C, and D based on the Michigan High School Athletic Classifications for the year 1958 (19). See Chapter III for a further description of classification procedure.

ORGANIZATION OF THESIS

The thesis is organized according to the following plan:

Chapter I includes a statement of the problem and a delineation of the study.

Chapter II will consist of a review of related studies.

In Chapter III the methodology and procedure involved in the study are described.

Chapter IV and V are devoted to the analysis of the data. A summary of the Mooney Problem Check List data and the hypotheses regarding student problems will be found in Chapter IV. In Chapter V the questionnaire data and the hypotheses concerning the sources of student guidance will be discussed.

The summary and conclusions of the study are contained in ~~the concluding~~ Chapter VI.

CHAPTER II

REVIEW OF RELATED RESEARCH

The Mooney Problem Check List has been used extensively since its development in the early 1940's. The Check List is published in three similar forms: College, High School, and Junior High School Forms. In 1950 the instrument was revised, and it is this revision of the High School Form that is used in the current study. In this chapter certain selected studies are reviewed concerning the Mooney Problem Check List and its uses which are relative to the present study.¹ A review of selected studies of student sources of guidance will also be undertaken to aid orientation to the study.

STUDIES CONCERNING THE MOONEY PROBLEM CHECK LIST

Mooney, in reporting the validity and reliability of the Mooney Problem Check List (20), makes the point that both are difficult to assess. Because the Check List has many uses, its validity should be studied in the light of the use to be made of it, and for this reason no validity coefficients are computed or quoted in the Mooney Manual (20).

Two recent studies have attempted to evaluate the validity of the Mooney Problem Check List. Singer and Stefflre

¹A more detailed description of the nature of the Mooney Problem Check List is reported in Chapter III.

(26) assessed the concurrent validity of the Mooney by comparing the results from 109 veterans on the Guilford-Zimmerman Temperament Survey with those on the Mooney Problem Check List, Adult Form. The veterans were an unselected group who had come for vocational counseling to a counseling center in a large metropolitan area (26:299). The Adult Form is similar enough to the High School Form so that the findings are relevant. Singer and Steffire found that "many" checks on the Check List were apt to indicate undesirable temperament traits (26:301). They found a significant correlation between the veterans not deciding on a vocation during counseling and the number of problems they checked on the "Occupations" area of the Check List (26:301). This seems to indicate that the Mooney Problem Check List has some validity in uncovering the vital areas of personal concern.

A more extensive study on the validity of the Mooney was carried out by Charles McIntyre (18). In the study, seven a priori hypotheses were constructed and tested. The hypotheses were:

1. The less intelligent students would have more problems in the "Adjustment to School Work" problem area.
2. Seniors would have more problems than others in the "Future: Vocational, Educational" problem area.
3. Students of broken homes would have more problems in the "Home and Family" problem area.
4. Boys would have more problems in the "Adjustment to School Work" problem area.
5. Boys would have more problems in the "Future: Vocational, Educational" problem area.
6. Negroes would have more problems in the "Finances, Living Conditions and Employment" problem area.

7. Girls would have more problems in the "Courtship, Sex and Marriage" problem area (18:270).

The High School Form of the Check List was given to 407 students in a medium sized Pennsylvania city. Following the administrations the students were grouped into the categories called for by the hypotheses and correlations were computed. Hypotheses one and two were confirmed at the .01 level of confidence; and hypotheses three, four, five, and six were confirmed at the .05 level. Hypothesis seven was not confirmed (18:271). McIntyre concludes by saying, "It is concluded that these findings present prima facie evidence for the validity of the Check List (18:272)."

The calculation of reliability for the Mooney Problem Check List is perhaps more difficult than gaining evidence of validity. Because of the nature of the Check List, the usual forms of calculating reliability are of little value. The only possible test of reliability is the Test-Retest method. The weakness inherent in this method is that if the retest is given too soon, recall and memory will influence the results. If the retest is too far apart, then the problems of the person involved may change thus affecting the reliability coefficient unjustly. Mooney does, however, quote two studies using this method (20:9). Rank order correlations between .90 and .98 were found. Because of the limitations mentioned, these reliability coefficients at best represent only a qualified support for the reliability of the Check List.

The fact that a certain degree of validity seems to have been established would tend to support the reliability of the instrument. This, plus the fact that the Check List has been widely used and accepted, led to its being employed in the current study.

The question of whether check lists should be signed or unsigned when used in a survey was investigated by Robert P. Fischer (10). Fischer was attempting to confirm or disprove a study by W. C. Olsen (22) in which Olsen found that college women tended to report more symptoms on the Woodworth-Mathews Personal Data Report when the questionnaire was left unsigned. Fischer used the Mooney Problem Check List, College Form, and administered it to 102 college women. It was first administered and signed by the women and one week later given anonymously to them. Through a special system of pin pricks in the anonymous Check Lists the tests of each woman were compared (10:222). The results showed that in the total problems marked, there were no statistically significant differences although a slight increase was noted for the Check Lists left unsigned. In the area of serious problems there was a statistically significant increase on the unsigned Check Lists (10:225). Fischer concluded that withholding signatures tended to elicit more serious problems and that on highly personalized items more returns would be forthcoming if names were withheld (10:225).

Due to the study by Fischer in confirming Olsen's findings and the fact that Mooney himself suggests that anonymity is helpful in eliciting greater responses (20:5), the Check List was administered anonymously in the present study.

William H. Brown conducted a study at North Carolina College in Durham, North Carolina, with the College Form of the Check List (2). An attempt was made to compare a group of probationary students (probationary for academic reasons) and a group of honor students on the basis of their Check List results. Brown found that in the problem area "Adjustment to College Work" there was a significant difference in the number of problems checked between the two groups. The probationary students checked a greater number (2:16). This finding seems to confirm the validity of the Mooney in indicating true areas of concern. Brown also found that the probationary students checked a statistically significant greater number of total problems than did the honor students (2:15). This last finding is apt to be misinterpreted, and Brown does not clearly define its relevance. On the surface, it would seem to indicate a greater number of problems among the probationary students. However, the difference between the groups may be due to other factors. The probationers may have been more willing to admit their problems than were the honor students who may have been more defensive or self-reliant. This illustrates a point concerning the use of the Mooney. The total number of problems checked should not be a point upon which great weight is placed. In conducting group surveys where between-group comparisons are to be made, the merit in using the Mooney comes from testing for proportionate differences between the groups. In Brown's study the fact that the probationary students were more concerned about problems of school work (i.e. this problem area ranked higher

in their hierarchy of concern than it did that of the honor students) may be a significant finding, but the fact that they checked a greater number of problems per se has little proven relevance.

Buchanan and Bryan conducted a study in Iowa drawing on the Mooney Problem Check List responses in nine high schools (3). They used a sample of 764 students who were grouped and compared on the basis of grade, size of school, age, sex, residence, and occupation of father to test for basic differences in each of the eleven problem areas. The main criticism of this study is similar to the previous one. Though the authors of the study do not go into detail concerning their analysis, some shortcomings are obvious. Instead of a proportionate analysis, comparison was made and reported solely on the basis of the number of problems checked in each category. This is evidenced by the fact that in all of the eleven problem areas the students in the larger schools were stated to have more problems. This finding could just as easily mean that the students in the larger schools were more aware of their problems and more willing to check them. A proportionate comparison would have indicated the students relative concern in each problem area in comparison with the students from the other schools. This type of finding may have had greater significance. This study also may be criticized because the school-size divisions were less than 100, 100 to 200, and over 200 students. These enrollments do not seem to be sufficiently different to enable one to say that school size has been a dominant factor.

Fick conducted a study in 1952 of problem check lists and their possible uses (9). At least three of his conclusions bear on the present study. After surveying a number of check lists, Fick concluded two were better designed than the others. One was the Science Research Associates Youth Inventory and the other, the Mooney Problem Check List (9:411). One of the valid uses of the check lists, as stated by Fick, is group surveys to determine student problems upon which to base curriculum changes and personnel programs (9:412). This is one of the purposes for which the current study was undertaken. Among the advantages Fick listed for the Mooney is its broad coverage of the students' problem world. This coverage insures a good sampling of the students problems. One of the limitations listed was that a check list is not a "depth" technique. It will not reveal unconscious needs or drives which the person does not wish to reveal. A further limitation is that the Mooney is not a scale to be mathematically manipulated, and it cannot be used to classify mental disorders as can some clinical instruments (9:412). This study was reviewed because it presents the uses and misuses of the Mooney. It confirms that within limitations the Mooney can be used advantageously. It is within these limitations that the Mooney is used in this study.

The Southern States Work Conference on Educational Problems, which is sponsored by the State Educational Associations and State Departments of Education in fourteen southern states, in 1956 concluded a study of the needs of southern youth (13). To help assess the needs of their

students and the guidance services in the schools, this group used both the Mooney Problem Check List (High School and Junior High Forms) and the Science Research Associates Youth Inventory (High School Form). The Mooney, Form H, was given to over 1000 students in the fourteen states in an attempt to get a representative sampling (13:11). The study does not report the details of the administration of the instruments nor does it contain any statistical analyses. The frequencies are the only figures reported. The most frequently checked problems are also listed. The problem areas and the frequency with which the problems within them were checked is as follows (13:12):

<u>Problem Area</u>	<u>Frequency</u> (Sample-1105 Students)
1. Adjustment to School Work	5791
2. Personal-Psychological Relations	4778
3. Social Recreational Activities	4331
4. Social-Psychological Relations	4187
5. Future: Vocational, Educational	3789
6. Health and Physical Development	3480
7. Finances, Living Conditions and Employment	3452
8. Courtship, Sex and Marriage	3317
9. Morals and Religion	3196
10. Curriculum and Teaching Procedures	3031
11. Home and Family	2553

This study illustrates a common use of the Mooney and is one of the most extensive recent administrations of the High School Form that has been reported.

A further reason for including the Southern States Work Conference Study in this review is that it presents a typical profile of responses. It is evident after critically reading a number of studies involving the Mooney that certain general characteristics in the responses can frequently be expected. This is a finding also mentioned by Singer and Stefflre (26:301) in their study. The problem areas that often rate high in the concern of young people are "Adjustment to School Work," "Social-Psychological Relations," and "Personal-Psychological Relations." The problem areas of "Home and Family," "Morals and Religion," and "Curriculum and Teaching Procedures" on the other hand, are frequently the lowest areas of concern. While these response patterns are often found, it also is apparent that differences in responses occur. Variance is evident between studies indicating there is a basis for comparison between groups. The fact that similarities in response patterns are found may be a reflection of a similarity of actual problem patterns among adolescents.

Leslie Parrot conducted a study in six Nazarene Colleges in 1958 using the Mooney Problem Check List, College Form (23). This study has contributed in large measure to the methodology of the current study. Parrot's investigation involves both the study of student problems and sources of guidance. It is reviewed in detail at the end of this chapter. A further orientation to the use of the Mooney Problem Check List in group surveys can be obtained by reading the Review of Literature in Parrot's dissertation (23).

RELATED STUDIES OF ADOLESCENT PROBLEMS
AND SOURCES OF GUIDANCE

Two of the studies in the area of adolescent problems which are frequently quoted in the literature are companion studies carried out among Roman Catholic high school students. One study by Sister Mildred Knoebber (14) deals with adolescent girls while the companion study by Urban Fleege (11) concerns adolescent boys.

Sister Knoebber conducted her study in twenty-two Roman Catholic and eight public high schools in twenty different states (14:184). A questionnaire which took twenty-three to forty minutes to complete was given to the girls aged twelve to twenty-two with over 50% in the fifteen to sixteen age range. The sample included 3000 girls (14:185). The questionnaire contained sixty general questions and represented a comprehensive coverage of the girls' problems. Knoebber was mindful of the need for good rapport and also the need to insure the girls that their responses would be kept in strict confidence (14:183). In general, Knoebber's study is comprehensive, but it has limitations concerning the girls' sources of guidance. One question Knoebber asked was, "To whom do you talk freely about anything and everything?" This question seems to be too broad to gain valid and useful responses concerning guidance. A question such as this requires a generalization beyond the capability of adolescents. By asking about specific problem areas in which students have problems such as the area of vocational choice or the area of religion one is more apt to get a true picture

of the student's sources of guidance. Knoebber does ask about the areas of sex and vocational choice, two areas covered in nearly all the studies, but she neglects many problem areas which are of importance. The present study, attempting to gain a broader view of the help students receive, inquires into eleven different problem areas.

The actual results of Knoebber's study are somewhat suspect at this time because the study is over twenty years old and was conducted during the depression. Since this study was conducted, the time element and the socioeconomic conditions may have changed the guidance picture.

One finding of Knoebber which seems to have some validity was that girls tend to rely much more on their parents for their sex information and vocational guidance than do the boys (14:76-90). This is a finding also common to the studies of Bell (1), Landis (16), and Duvall and Motz (7).

In 1945 Urban Fleege followed Knoebber's pattern with a study of Roman Catholic boys (11). He developed a questionnaire and administered it to a sample of 2000 boys. The study is well done except the section in which Fleege investigates the sources of guidance used by the adolescent boys. Fleege followed the pattern of many of the early studies in this field. He asked the boys what their sources of guidance were in only the two problem areas of sex and vocational choice (11:101-272). Again, as in Knoebber's study, the criticism in regard to this is that while these are two important problem areas in which young people need good guidance, they are

not the only ones. These studies consequently lack breadth and do not allow one to obtain an over-all picture of the sources of guidance used by these young people.

Fleege did, however, find some facts that are representative of studies in this area. He found that the boys most important source of sex information was their companions (11:272). Fleege also found, when asking the students what worried them most, that school work and closely related problems ranked first (11:101).

The studies of Knoebber and Fleege consisted entirely of reporting in frequencies and percentages the returns of the questionnaire. They were typical of the vast majority of these studies because no sophisticated statistical procedures were employed.

Glenn Ramsey, as a preface to his study, reviewed the important studies relative to the sources of sex information for boys (25). He reviewed the studies of Exner (1915), Hughes (1926), Archilles (1923), and Peck and Wills (1923), all of which agreed that the boys' companions were their chief source of sex information (25:329). In his own study of 291 boys in early adolescence, Ramsey found that 90% of their first sex information came from male companions (25:350). He divided the sex information into nine different areas, such as the origin of babies, masturbation, contraceptives, etc., and he found that in each area the companions provided the most significant information (25:350). Ramsey was also concerned with parental sex instruction. One

of his findings revealed that only 13% of the boys rated their parents' sex instruction as fair or adequate (25:352). The rest of the boys rated it as poor or nonexistent. The study of Ramsey is cited because it reviews and confirms a common finding in studies of sex information; namely, the companions of the boys are the most important source of information. The study is typical of the studies involving sources of guidance because it selects the area of sex information to study and does not include the many other important areas of adolescent guidance.

Paul Landis added a new dimension to this type of research when he conducted a study at Washington State College (16). He studied a group of 462 single girls. The girls and their mothers were given a questionnaire in an attempt to study differences between generations (16:155). The question was asked, "What is the best way for a child to learn about sex?" The two generations agreed by both choosing the parents as the best source. Ninety-three per cent of the mothers and 87% of the daughters listed the parents in answer to the question (16:156). The next most important source they felt should be systematic instruction in the schools with 55% of the mothers and 55% of the daughters marking this source (16:156). When asked where they had received their first sex information, "parents and relatives" was listed as the most important source with 48% of the mothers and 77% of the daughters mentioning it as the most important source of guidance (16:156). This difference in percentages may be indicative of an increase in the parental role in sex education. The

parents seemed to be more involved in the present generation than in the past generation in this respect. The study is again limited to sex information. However, it does attempt to study differences between generations, and it does confirm other studies in the finding that girls tend to rely more on their parents than on their companions for sex information.

As one aspect of their study Duvall and Motz studied the guidance of girls in 1945 (7). They were particularly interested in finding the influence of age and educational level on social experience and personal-family adjustments. In the area concerning sources of sex information for girls, they found little influence as a result of these factors. All the groups reported the parents being the most important source of guidance (7:417). Duvall and Motz did find that in the older groups there was a trend toward more reliance upon other children or companions (7:417).

A recent survey of this subject was carried out by Eugene Gilbert of the Gilbert Youth Research Company (12). When asking 750 young recently married couples where they received their sex information, 23% of the husbands and 29% of the wives said from their parents, while 65% of the men and 55% of the women said from friends their own age (12). The figures for the men agree with the other studies, but the figures for the women do not agree with these studies. This latter finding may be due to an actual difference in the populations studied. It may also be explained by the fact that perhaps when husbands and wives were interviewed together the

wife tended to agree with her husband's answers. This study, while lacking controls and statistical analysis, is included because it is the most recently reported one in this area.

Howard Bell in his study of the youth of Maryland, for the American Council on Youth, included questions as to where the young people received their sex information as well as where they received their vocational guidance (1). Bell's sample was probably the most carefully selected of any of the studies as it was an attempt to gather a sample representative of the youth of America. The study included 13,528 students, ages sixteen to twenty-four, and data was collected by carefully standardized interviews (1:9). In the matter of sex information, 66% of the boys and 40% of the girls reported their sex knowledge was limited to what their companions had told them (1:270). Parents ranked first for girls (45%) and second for boys (16.8%). This agrees with earlier studies. In the matter of vocational guidance the school was listed as the most important source of guidance, though only 30% of the twelfth graders reported having received any guidance in this area at all (1:75). The study again deals with two aspects of adolescent guidance; however, it is one of the most extensive efforts in the area.

Edwin Peters in a study among 700 Missouri high school seniors, at a voluntary vocational conference, asked what had been the most important factors in influencing the selection of the vocation they were about to enter (24:428-429). The answers led to a conclusion by Peters that the home or parent is the greatest agency in determining the vocation of the

young person (24:430). This would seem to contradict Bell's finding. However, the difference in findings may be in the way the questions were asked. Bell's question refers specifically to "where" guidance had been received, while Peters asks "who" had influenced their choice of a vocation. It is quite compatible to believe that while parents do not provide much information about vocations, they are important in influencing a decision for a vocation by one of their children.

Another contemporary study of Bell's was one by Walter Eells who attempted to assess the school's role in providing guidance to adolescents (8). The study was carried out on a national basis and sampled 17,000 students in 198 representative public and private secondary schools. Eells broke with the tradition of these early studies and included six areas of guidance instead of the usual one or two areas. The study did not attempt to locate guidance sources but sought to determine from student perceptions the degree to which they had received helpful guidance in certain problem areas from the school. The areas studied were the library, health, education, vocation, leisure, and personal problems (8:275). Eells studied the relationship of grade level, sex, I.Q. level, and type of school (private or public) to the amount of guidance the students had received from their school in the above six areas. Eells found that grade level had no affect upon the guidance received. He also found that the lower I.Q. levels, the private school students, and the girls tended to get slightly better help than the higher I.Q. levels, the

public school students, and the boys (8:267). Eells' general over-all observation was that the guidance received by the students was poor (8:275).

Ruth Strang reported a study which consisted of an analysis of 573 compositions of students in grades eight through twelve in carefully selected schools. The topic of the composition was "What help or guidance do persons my age want from adults?" (27). The study was carried out in a variety of institutions representing private, Roman Catholic, and public schools in which different economic levels were represented (27:523). The areas of help in which the students indicated they wanted assistance were in the order of importance as follows: (1) social relations, (2) educational guidance, (3) morals or religious questions, (4) vocational guidance, and (5) money problems (27:524). Only a small percentage indicated they wished no help at all. This study is somewhat limited because of its subjectivity. The students were allowed to write compositions on the previously stated question. The interpretation of this type of material and the derivation of valid generalizations become difficult. However, the study is of recent vintage, and it is important because it gives some indication of the areas in which young people would like help. Strang concluded her book with a discussion of why young people do not go to their parents for more guidance. In the discussion the following reasons were stated: (1) adolescent desire to be independent, (2) distrust of adult knowledge, (3) dislike of having serious problems

minimized, (4) resentment of incessant gratuitous advice, (5) feeling misunderstood, and (6) feeling parents are to blame for adolescent mistakes and delinquency (27:530-535).

In 1958 Parrot conducted a study of personnel services in six church-related colleges (23). Of the studies cited in this review of literature, Parrot's is the most profound. The present study is largely based upon the methodology of Parrot's dissertation.

Parrot had three main objectives in his study. One objective was to obtain the administrator's perceptions of the personnel services functioning in the six colleges. Another objective was to test faculty and student awareness of the personnel program as perceived by the administrators. The final objective was to find the student's perceptions of their own problems (23:3).

To obtain his first objective Parrot sought the administrator's perceptions of the personnel programs from interviews and write-ups in the college catalogs.

The second objective of Parrot's study, to study faculty and student perceptions of the personnel program, was developed through the use of a questionnaire. The instructions on the instrument required the respondents to list the sources of help available on their campus in each of the eleven problem areas contained in the Mooney Problem Check List. Parrot then took the primary source listed by each group in each problem area and applied the chi square test of significance to the data. Within each college he compared

the faculty and seniors perceptions and the senior and freshmen perceptions. At this point Parrot could have strengthened his study by adding a faculty-freshmen comparison. It is important to contrast the faculty with the least sophisticated group (freshmen) as well as the most sophisticated (seniors) group. In Parrot's study this can only be done by inference from the two comparisons he did make. The present study has employed the procedure of making contrasts with both the most and least sophisticated groups in the study.

Another point concerning Parrot's study is that he did not make clear how he derived the frequencies which he used in the chi square test. His questionnaire left four spaces below each problem area for the respondents to list sources of help, but they were not instructed concerning how many sources to list or if they should be listed in the order of importance. Just how Parrot categorized them and developed his frequencies is left unexplained.

The questionnaire employed in the present study, while basically similar to Parrot's in nature, was more highly structured. A list of sources of guidance was included, and the directions were more inclusive. Five spaces were left beneath each problem area. The respondents were asked to list the sources in the order of importance if more than one was listed. This was done to better fit the questionnaire to the abilities of the high school students and to make the data adaptive to the statistical test employed. The current study also uses both the questionnaire and Mooney as anony-

mous instruments. Parrot uses both with the students signing their names. On the basis of the research cited earlier in this chapter, it is believed that more accurate perceptions are revealed if students are not required to be identified.

The last objective of Parrot's study involved studying the problems of the college students. This he did through the use of the Mooney Problem Check List, College Form. The chi square test for K related samples was applied to the results (23:54). Parrot compared five student groupings among the six colleges to test for basic differences in problem patterns. They were male freshmen; male sophomores, juniors, and seniors; female freshmen; female sophomores, juniors, and seniors; and all married students. It is conceivable that in putting the sophomores, juniors, and seniors together in the comparisons that Parrot lost an opportunity to observe some distinctions which may have been present.

A question also should be raised concerning Parrot's use of the chi square test for K related samples. In his tables Parrot compared simultaneously several groups of students of varying size on the basis of the number of problems they had marked. In this manner, independence was lost in the cells. The current study, to avoid this error, has used the median test.

In general, Parrot's study was a sophisticated approach to the study of student problems and their sources of guidance. In addition to the previously mentioned factors, Parrot visited each college being careful to obtain an ade-

quate sample as well as to standardize the instrument's administration procedures. The latter point is one few studies have reported.

SUMMARY

Selected studies have been reviewed which use the Mooney Problem Check List and which deal with student problems and sources of guidance. The studies reviewed help to present a background and orientation to the present study. The studies deal with various aspects of the problem being investigated and were selected to be representative of the type of study that has been done in this general area. The studies involving the Mooney Problem Check List show it to be an instrument which has some validity in uncovering the problems of people. The studies involving sources of guidance in general do not cover the subject thoroughly but only concern themselves with one or two specific problem areas. Only Parrot's study develops a breadth and methodology suitable to the problem at hand.

CHAPTER III

METHODOLOGY AND PROCEDURE

The development of this design was based on the research of the previous chapter. The details of the research design involving a description of the sample, evaluating instruments, data collecting procedures, and method of analysis follows.

DESCRIPTION OF THE SAMPLE

The study is based upon responses of four separate groups: Christian school students, public school students, Christian school leaders, and Christian school teachers. The Christian school students, leaders, and teachers were all asked to designate sources of guidance for eleven basic problem areas of youth. A survey was made of the nature of the problems of the Christian school students by administering the Mooney Problem Check List, High School Form, 1950 Revision. The same form of the Check List was administered to a sample of public school students for comparative normative purposes.

Classification of High Schools in the Sample

To determine what relationship, if any, existed between school size and the problems under study, it was necessary to categorize the high schools according to size. A three-class system based on student enrollments in grades nine through twelve was used.

Class A--900 or more students
 Class B--400-899 students
 Class C and D--399 students or less¹

Three of the Christian schools have only grades ten, eleven, and twelve. For these schools, the standard procedure of adding one-third to the total enrollment of the three grades was used to adjust the over-all classification (19:213).

The usual Class C and D categories were combined in the study because of extreme limitations in the Class D Christian school enrollments.

High Schools in the Sample

As stated previously both Christian and public high schools were involved in the study. A further orientation to the study is provided in a description of the high school sample.

Christian High Schools Ten high schools affiliated with the National Union of Christian Schools in Michigan and Illinois were originally selected to be included. One of the schools (Holland Christian High School) preferred not to

¹This is an adaptation of the Michigan High School Athletic Classification System for Lower Peninsula Schools (19).

participate. The enrollments in the nine remaining schools represent slightly over 50% of the national Christian high school enrollment.

The Christian schools differ in a number of characteristics which have been summarized in Table III.1. They are found in communities which range in population from 500 to over 3,500,000. The enrollments range from 99 to over 1100 students in grades ten, eleven, and twelve. The smallest school employs six teachers and the largest forty-five teachers. According to the estimations of the administrators in one extreme, 99% of the students in one school live on farms in contrast to another school where all students live in a large city. In one community only 10% of the high school graduates go on to college in contrast to another community where 65% attend college. While the characteristics of the individual schools vary, the philosophy, curriculum, and teaching procedure of the schools are similar, reflecting the conservative nature of the sponsoring religious groups. Emphasis is on traditional education, stressing the liberal arts and college preparatory programs.

Public High Schools In order to hold community differences to a minimum in the Christian-public school comparisons, four public high schools identical in size and location to a Christian school were selected. The Christian high school principals listed all area public high schools which were in the same size category as their schools. The list of public high schools was divided into the four size categories,

TABLE III.1

LOCATION, SIZE OF CITY, SIZE CLASSIFICATION, ENROLLMENT, NUMBER OF TEACHERS, AND ADMINISTRATOR ESTIMATIONS OF PERCENT OF RURAL-URBAN, AND COLLEGE-BOUND STUDENTS IN CHRISTIAN AND PUBLIC HIGH SCHOOLS IN THE STUDY

High Schools	Location	Size of City	Class	Enroll. 10 - 12	No. of Teachers	% of Rural Students	% of Urban Students	% Going on to College
<u>Christian</u>								
1. Grand Rapids	G. Rapids	175,000	A	1107	45	5	95	65
2. Unity	Hudsonville	1,500	B	326	19	40	60	45
3. Chicago	Chicago, Illinois	3,600,000	B	392	19	0	100	35
4. South	G. Rapids	175,000	B	339	15	50	50	40
5. Illiana	Lansing, Illinois	15,700	C	264	14	5	95	30
6. West. Mich.	Muskegon	50,000	C	199	12	10	90	50
7. Kalamazoo	Kalamazoo	60,000	C	259	15	15	85	40
8. Timothy	Cicero, Illinois	55,000	D	130	9	3	97	55
9. North Mich.	McBain	500	D	99	6	99	1	10
<u>Public</u>								
1. Creston	G. Rapids	175,000	A	1143	40	27	73	60
2. Hudsonville	Hudsonville	1,500	B	333	17	75	25	35
3. University	Kalamazoo	60,000	C	269	30	1	99	90
4. McBain	McBain	500	D	120	10	90	10	25

The data for this table was collected in interviews with the school administrators. The last three columns represent their estimations.

All cities are in Michigan unless otherwise indicated.

(A,B,C,D), and one school was then randomly selected from each classification. In each case, the public school selected agreed to cooperate in the study. As with the Christian high schools, the Class C and D schools were combined into one category.

The descriptive data of the public high schools is summarized in Table III.1. The largest public high school has an enrollment of 1143, and the smallest 120. Ninety per cent of the students in one school live on farms while in another school only 1% come from rural areas. Approximately 90% of the University High students go to college in contrast to McBain's 25% college matriculation. At one extreme a school is located in a small country town of 500 people, and another in a large city with a population of 175,000 people.

It is recognized that all the variables could not be controlled between the public and Christian schools allowing unqualified generalizations to be made from the study. The selection of schools was as precise as possible under the circumstances and was an attempt to hold constant the school size and community location.

Individuals of the Sample

The Christian and public school students and the Christian school teachers were selected randomly. In the fourth group of the study, the Christian school leaders, a total sample was obtained. A description of the exact procedures employed in selecting each group follows.

Christian School Leaders Theoretically, every group has a core of leaders which either form or direct philosophy and policy. The identification of these leaders is not always an easy task. One functional method of identification is to have the administrators of policy designate who they think the leaders are. This plan was followed by having all Christian school principals in the study nominate their outstanding school leaders. To facilitate the nominations a letter-questionnaire was sent to each principal.² In the letter the Director of the National Union of Christian Schools added his endorsement to a request for cooperation in nominating the leader group. The following instructions were used:

Please list at least 12 people whom you feel are at present the outstanding leaders in the Christian school movement in the United States. If you can list more, please do so. If you cannot list 12, please list as many as you can.

Of the 196 principals polled, eighty-one (41%) responded. A total of 192 different names were nominated. The twenty-two (10%) receiving the most votes were arbitrarily designated as leaders.

Christian School Teachers Teacher opinions of the sources of guidance for Christian school youth were obtained by giving the Sources of Guidance Questionnaire, Adult Form, to a 25% random sample of each of the nine Christian high school teaching staffs.

²A copy of the letter-questionnaire is found in Appendix A.

In the correspondence with each school arranging a date for student testing, a request was made for an alphabetized list of the teaching staff in grades ten through twelve. A table of random numbers was used to determine a starting point on each list, and thereafter every fourth name was selected to obtain a one-quarter sample. Alternate names were chosen in case a teacher was not able to complete the questionnaire.³ This biasing procedure was employed only once. All thirty-seven (97%) teachers selected for the sample, plus the one alternate, responded making a total of thirty-eight.

Christian School Students The original goal of the study was a 12.5% stratified random sample of Christian high school students for each of the two questionnaires. The strata were the tenth, eleventh, and twelfth grades for each sex. The operational steps for obtaining the sample were as follows:

1. The cooperating high schools were asked to supply an alphabetized class list for each of the upper three grades separated by sex.
2. A table of random numbers was used to determine a starting point in each of the six lists. Thereafter, every fourth name was selected. As the names were selected they were alternately placed in two groups. This, in effect, split by sexes each of the six groups, seniors, juniors, and sophomores into two equal 12.5% samples.
3. A coin was flipped to determine which of the two samples in each of the six groups would take either the Mooney Problem Check List or the Sources of Guidance Questionnaire, Student Form.

³Because this procedure merely increases the available sample rather than the representations of the sample, it is not recommended in future studies of this nature.

Where fractions were involved in the sampling, they were rounded off to the next highest number resulting in an actual sampling of slightly over 12.5% for most groups.⁴ This was done in the anticipation that some students would misunderstand directions or in other ways invalidate their instruments. On each list one or two alternates (depending upon the size of the school) were selected. If the original person selected was absent on the day of the administration, the alternate was used. The Mooney Problem Check List was administered to 420 students (13.5% of the total enrollment). Nine of the Check Lists were filled out incorrectly, thus leaving a sample of 411 (13.2%). The Sources of Guidance Questionnaire, Student Form, was also taken by 420 students. Thirteen of these were invalidated and removed, leaving a group of 407 (13.1%).

Public School Students To obtain an approximate random sample of public school students, each school was asked to provide one class from each of the upper three grade levels to be given the Mooney Problem Check List. It was stipulated that the class should be in a required course and as much as possible represent a cross section of that grade. Each school complied with the request, and a total sample of 272 public school students was secured.⁵

⁴See Table III.2 for details of Christian school sampling.

⁵See Table III.3 for a description of the public school sample.

TABLE III.2

A SUMMARY OF THE CHARACTERISTICS OF THE CHRISTIAN SCHOOL SAMPLE
BY INDIVIDUAL SCHOOLS, SEX, GRADE LEVEL, TOTAL ENROLL-
MENT, WITH THE NUMBER AND PERCENTS OF EACH GROUP
IN THE MOONEY AND QUESTIONNAIRE SAMPLE

Name of School	Sex	Grade	Total Enrolled	No. In Mooney Sample	% In Mooney Sample	No. In Ques. Sample	% In Ques. Sample
Grand Rapids	M	12	130	17	13.08	16	12.31
Christian	F	12	161	20	12.42	20	12.42
High School	M	11	167	21	12.57	21	12.57
	F	11	219	28	12.79	30	13.70
Class A	M	10	206	25	12.14	25	12.14
	F	10	224	29	12.95	28	12.50
Totals			1107	140	12.64	140	12.64
Chicago	M	12	35	5	14.28	6	17.14
Christian	F	12	50	7	12.50	6	10.71
High School	M	11	51	7	13.73	7	13.73
	F	11	87	11	12.64	10	11.49
Class B	M	10	70	9	12.86	9	12.86
	F	10	93	13	13.98	13	13.98
Totals			392	52	13.27	51	13.01
South	M	12	47	6	12.77	6	12.77
Christian	F	12	55	7	12.73	8	14.55
High School	M	11	56	7	12.50	6	10.71
	F	11	61	8	13.11	9	14.75
Class B	M	10	56	8	14.29	7	12.50
	F	10	64	9	14.06	8	12.50
Totals			339	45	13.27	44	12.98
Unity	M	12	39	5	12.82	5	12.82
Christian	F	12	44	6	13.64	6	13.64
High School	M	11	56	7	12.50	9	16.07
	F	11	61	9	14.75	8	13.11
Class B	M	10	70	8	11.43	8	11.43
	F	10	56	7	12.50	7	12.50
Totals			326	42	12.88	43	13.19
Illiana	M	12	34	5	14.71	5	14.71
Christian	F	12	38	6	15.79	5	13.16
High School	M	11	36	6	16.67	4	11.11
	F	11	60	8	13.33	8	13.33
Class C	M	10	44	6	13.64	6	13.64
	F	10	52	7	13.46	7	13.46
Totals			264	38	14.39	35	13.26
Kalamazoo	M	12	35	6	17.14	7	20.00
Christian	F	12	46	5	10.87	5	10.87
High School	M	11	46	7	15.22	6	13.04
	F	11	50	7	14.00	7	14.00
Class C	M	10	45	6	13.33	7	15.56
	F	10	37	5	13.51	5	13.51
Totals			259	36	13.90	37	14.29

TABLE III.2-Continued

A SUMMARY OF THE CHARACTERISTICS OF THE CHRISTIAN SCHOOL SAMPLE
BY INDIVIDUAL SCHOOLS, SEX, GRADE LEVEL, TOTAL ENROLL-
MENT, WITH THE NUMBER AND PERCENTS OF EACH GROUP
IN THE MOONEY AND QUESTIONNAIRE SAMPLE

Name of School	Sex	Grade	Total Enrolled	No. In Mooney Sample	% In Mooney Sample	No. In Ques. Sample	% In Ques. Sample
Western	M	12	30	4	13.33	4	13.33
Mich. Christian	F	12	35	5	14.29	5	14.29
High School	M	11	30	4	13.33	4	13.33
	F	11	40	5	12.50	5	12.50
Class C	M	10	34	5	14.71	4	11.76
	F	10	30	4	13.33	4	13.33
Totals			199	27	13.57	26	13.07
Northern	M	12	10	2	20.00	2	20.00
Mich. Christian	F	12	17	2	11.76	2	11.76
High School	M	11	17	2	11.76	2	11.76
	F	11	20	3	15.00	3	15.00
Class D	M	10	17	2	11.76	2	11.76
	F	10	18	3	16.67	3	16.67
Totals			99	14	14.14	14	14.14
Timothy	M	12	19	2	10.53	2	10.53
Christian	F	12	22	3	13.64	3	13.64
High School	M	11	18	3	16.67	3	16.67
	F	11	26	3	11.54	3	11.54
Class D	M	10	25	3	12.00	3	12.00
	F	10	20	3	15.00	3	15.00
Totals			130	17	13.08	17	13.08
Christian	M	12	379	52	13.72	53	13.98
School	F	12	474	61	12.87	60	12.66
Composite	M	11	477	64	13.42	62	13.00
	F	11	624	82	13.14	83	13.30
	M	10	567	72	12.70	71	12.52
	F	10	594	80	13.46	78	13.13
	M		1423	188	13.21	186	13.07
Total by Sexes	F		1692	223	13.18	221	13.06
Totals			3115	411	13.19	407	13.07

TABLE III.3

A SUMMARY OF THE CHARACTERISTICS OF THE PUBLIC SCHOOL SAMPLE
BY INDIVIDUAL SCHOOLS, SEX, GRADE LEVEL, TOTAL ENROLL-
MENT, WITH THE NUMBER AND PERCENTS OF EACH
GROUP IN THE MOONEY SAMPLE

Name of School	Sex	Grade	Enrollment	No. In Sample	Percent In Sample
Grand Rapids	M	12	135	18	13.33
Creston	F	12	136	14	10.29
High School	M	11	237	20	8.44
	F	11	195	9	4.62
Class A	M	10	227	17	7.49
	F	10	213	13	6.10
Totals			1143	91	7.96
Hudsonville	M	12	48	16	33.43
Public	F	12	48	17	35.42
High School	M	11	52	10	19.23
	F	11	53	13	24.53
Class B	M	10	58	16	25.59
	F	10	74	10	13.51
Totals			333	82	24.62
Kalamazoo	M	12	42	8	19.05
University	F	12	46	15	32.61
High School	M	11	43	10	22.26
	F	11	45	5	11.11
Class C	M	10	45	8	17.78
	F	10	48	13	27.08
Totals			269	59	21.93
McBain	M	12	21	7	33.33
Rural	F	12	18	3	16.67
Agricultural	M	11	14	8	57.14
High School	F	11	21	8	38.10
	M	10	31	7	22.58
Class D	F	10	15	7	46.67
Totals			120	40	33.33
Public	M	12	246	49	19.92
School	F	12	248	49	19.76
Composite	M	11	346	48	13.87
	F	11	314	35	11.15
	M	10	361	48	13.30
	F	10	350	43	12.29
	M		953	145	15.22
Total by Sexes	F		912	127	13.93
Totals			1865	272	14.58

ADEQUACY OF SAMPLE GENERALIZATION

There are certain limitations in the samples used in the study. Difficulty was encountered in selecting the public schools. In Class C the only public school available was the University High school at Western Michigan University. This school is somewhat atypical in that the student body is selective and is above average in ability. The school officials stated that they attempted to balance out the student body with average and poor students. It was obvious, however, that this was not entirely accomplished. Because this was the only Class C school available, the school was sampled and included in the study. To a certain degree this school is not representative in its student composition when compared to the average public school which introduced a bias in the Class C-D classification. Furthermore, both the Christian school student and teacher samples had biases introduced because of absences, misunderstanding of directions, or inability of the sampled person to complete the instrument. One teacher had to be substituted because the selected teacher was not available. In sampling the students, fourteen of the alternates selected were used because those originally selected were absent. In addition, nine Mooney Problem Check Lists and thirteen questionnaires were removed because of obvious misunderstanding of directions. With the exception of the above limitations, the samples may be considered adequate and without distortion.

EVALUATING INSTRUMENTS

The Mooney Problem Check List, High School Form, and an original questionnaire designed to sample the respondent's opinion of the sources of guidance constituted the two criterion instruments of the study. The questionnaire was developed in two forms; one was for the students, and the other for the leader and teacher groups. Because the two questionnaire forms are similar, they will be considered together in the following description.

Mooney Problem Check List

The Mooney Problem Check Lists were developed during the 1940's to help students express their personal problems (20:3). The Check List is designed to sample a variety of concerns. A total of 330 problems is listed in the following eleven general areas (30 problems in each area).

1. Health and Physical Development (HPD)
2. Finances, Living Conditions and Employment (FLE)
3. Social and Recreational Activities (SRA)
4. Courtship, Sex and Marriage (CSM)
5. Social-Psychological Relations (SPR)
6. Personal-Psychological Relations (PPR)
7. Morals and Religion (MR)
8. Home and Family (HF)
9. The Future: Vocational, Educational (FVE)
10. Adjustment to School Work (ASW)
11. Curriculum and Teaching Procedure (CTP)

The administration of the Mooney Problem Check List is simple. The students read the list of problems contained in short statements and check those items that concern them. The present study, due to the large number involved, employed a machine-scored answer sheet with a reusable booklet.⁶

⁶A copy of the Mooney Problem Check List and answer sheet are found in Appendix B.

Problems of concern are indicated by shading in a special space below the number on the answer sheet, and the problems of most concern (serious problems) by shading in a similar space above the number.

The original Mooney Problem Check Lists were developed from the open-ended responses of 4,000 students who had been asked to briefly describe their problems. The phrases were edited, checked against other surveys, given in pilot studies, and finally presented in the present form (21:68).

In 1950, a revised edition of the Check Lists was published. In the revision, several items had minor changes in wording, other items were replaced, and the order of some items was changed (20:4). Mooney summarizes the 1950 revisions as, "The result of extensive research based on large surveys, coupled with expert judgment and long experience with these instruments" (20:3).

The validity and reliability of the Mooney are difficult to estimate and have not, for this reason, been carefully studied. The few studies centering on precision and consistency are reviewed in Chapter II.

The Mooney is administered with certain assumptions: the majority of students will be responsive to the items; they will accept the task with a constructive attitude; and they will find the Check Lists cover reasonably well the range of personal problems with which they are concerned (20:7). As far as could be ascertained, the students of the present study approached the task with a constructive attitude, several ex-

pressing their interest in the instrument. The students were also asked to check whether they believed the Check List gave a well-rounded picture of their problems, and 92% of the students replied that it did.

Harold Jones in reviewing the Mooney Problem Check Lists stated, "They can only be expected to provide data as to conscious and willingly expressed problems of students" (4:132). The instrument is not intended to give a deep look into the unconscious, to provide complex data for analyzing and classifying personality disorders, or to serve as a basis for predicting behavior. When used as a summary indicator of problems, however, the Mooney can be a valuable instrument. It is within these limitations and purposes that the Mooney is used in the study.

Questionnaire

As stated previously, the Sources of Guidance Questionnaire was developed in two forms.⁷ The Student Form was designed to assess the present sources of help used by the Christian school students. The Adult Form was given to teachers and leaders in the Christian schools to obtain their opinions of the sources of guidance the students should use.

Sources of Guidance Questionnaire, Student Form The Sources of Guidance Questionnaire was based on the Mooney Problem Check List. Questions were constructed asking where the student had or would seek help for problems typical of each of

⁷Copies of the two forms of the questionnaire can be found in Appendix C.

the eleven areas of the Mooney. Nine sources of guidance were arbitrarily selected and listed with clarifying examples. The sources listed were:

1. School classes and organizations (includes classroom work, career clubs, 4-H, future teacher's clubs, or other school groups).
2. School Personnel (individual teachers, advisers, etc).
3. Parents (father, mother, or guardian).
4. Friends (young people of same age or near the same age).
5. Other adults (neighbors, aunts, uncles, older brothers or sisters).
6. Church (minister, Sunday School teachers, classes, or groups connected with the church).
7. Family Doctor
8. Approved books, pamphlets, newspapers, and magazines (those approved by parents and church including Bible).
9. Non-approved books, pamphlets, and magazines (those not approved by parents and church).

If the students had no problems in an area, they were asked to indicate sources of help they would use if they did have this type of problem. Spaces were provided beneath each problem area for the student to select five of the nine sources of guidance. All students were asked to list at least one guidance source for each area. A request was made that multiple listings be ranked in the order of importance. If the nine sources of guidance listed were not appropriate, the student could add other sources in the blank spaces left for that purpose.

A page of instructions was included which covered the purpose, description, and marking of the questionnaire.

Sources of Guidance Questionnaire, Adult Form The Adult Form of the Questionnaire was the same as the Student Form except that one source of guidance (No. 9 in previous sec-

tion) was deleted and the adults were asked to indicate where they thought the students should obtain help in each of the eleven problem areas.

PILOT STUDY

After the Sources of Guidance Questionnaire was developed, a pilot study was conducted. Through the help of the National Union of Christian Schools a Christian junior high school was selected which would not be in the final sample (only senior high schools were used).

A group of thirty-five ninth-graders in the Cutlerville Christian Junior High school, near Grand Rapids, Michigan, constituted the pilot sample.

Before administering the questionnaire, the students were instructed to circle any words they did not understand and any problem areas which were confusing. The instrument was given anonymously as was the final form. It took from twenty to twenty-five minutes for all students to finish.

Also, prior to the administrations, five students were asked to obtain their peers' reactions to the questionnaire. These students were later interviewed. The general finding was that the questionnaire's use was producing the type of data desired. The students mentioned three or four words that gave them trouble and two problem areas which were not clearly differentiated from each other.

The Sources of Guidance Questionnaire was also given to five of the Cutlerville teachers to help clarify further the Adult Form of the instrument.

As a result of the administration to the Cutlerville teachers, three semantic changes were made on the questionnaire. The wordings of problem areas ten and eleven were altered to clarify and differentiate between the two areas. The other change was made in the description of source number one in the Sources of Guidance listing. In this instance, further examples were added to help clarify the meaning of the source.

It is recognized that the questionnaire has some obvious limitations; the language involved in summarizing the eleven Mooney problem areas may not communicate to some students and adults the meaning of the comparable area; it is possible that some students and adults found it difficult to generalize and choose the most important "one source" for a particular area; and the possibility of honesty or distortion is also present. The anonymous administration of the instrument had the advantage of obtaining frank and truthful answers which may not have been given in more threatening circumstances. On the other hand, it is easier for students to give ludicrous answers when there is no chance to identify the respondent.

INSTRUMENT ADMINISTRATION

The instrument administration procedures were held constant for all aspects of the study.

Christian School Students

The investigator went to each school, carried out the sampling procedures, and administered the instruments with the

one exception listed at the end of this section. After the sample was chosen, the principal notified the selected students to report to a designated room. Prior to the administration, the students were not informed of the nature of the study or of the instruments employed. In all schools, the students were divided into two groups according to the instruments they were to take. The writer administered the Sources of Guidance Questionnaire. A staff member was asked to administer the Mooney Problem Check List after receiving detailed instructions.

All students were given a brief introduction to the study and were asked to read the instrument directions.⁸ Following this, the directions were explained orally and questions solicited in order to clarify the procedure. The anonymous aspect of the study was emphasized. The written instructions on both the Mooney Problem Check List and the Sources of Guidance Questionnaire, Student Form, are detailed and contain examples making the instruments nearly self-administering. In all cases, the students were encouraged to ask questions about anything they did not understand.

The few students who did not finish the Mooney Problem Check List within the one hour usually allowed were permitted to continue until their responses were completed. The Sources of Guidance Questionnaire, Student Form, was finished by all respondents within a twenty to twenty-five minute period. All

⁸The written directions for the administration of each instrument will be found in Appendix C.

Christian schools were tested within a one hour period except the Grand Rapids Christian high school. Here, because of the large number in the sample and because of the lack of a room large enough to accommodate the students, the testing was done on two consecutive days (one hour each day). In this case, the students were unaware that the instruments would be given on the second day.

As stated previously, the writer took part in all administrations with one exception. After arriving at McBain, it was found that both the Christian and public high schools were not in session because of a broken water main. To prevent a return trip, the principals agreed to do the administrations. The administrative procedures were carefully explained to them. A bias may have been introduced at this point; however, as the McBain schools were small and both of the above schools contributed comparable parts to the public and Christian school samples, any differences which might occur because of this procedural deviance would be minimal.

Public School Students

Only the Mooney Problem Check List was administered to the public school students. In each case, the investigator went to each school and administered the Mooneys in the selected classes with the one exception of McBain. The instructions were the same as those used for the Christian school sample. The cooperation of the students was enlisted by explaining the study and adding that the summarized results would be returned to their school to aid the faculty in better meeting their needs.

Christian School Leaders

The Sources of Guidance Questionnaire, Adult Form, was sent to the twenty-two Christian school leaders with a letter from the Associate Educational Director of the National Union of Christian Schools requesting cooperation in the study. Complete directions were contained in the questionnaire which was self-administered. All responses were anonymous; however, a slip of paper with the respondent's name on it was included in the letter, and he was asked to return it with the completed questionnaire. The leader was told the slip of paper was for checking returns and would be destroyed. Two follow-up cards were necessary to obtain the full cooperation of all leaders.

Christian School Teachers

The Sources of Guidance Questionnaires, Adult Form, were sent to each of the nine Christian school principals, along with the names of the faculty who had previously been selected for the sample. The principals were asked to distribute the instruments. The questionnaires were sent to each school two days prior to the administering of the student instruments there. This was done so that the faculty would have adequate time and opportunity to complete the questionnaires. The teachers were asked to return the questionnaires unsigned to the school office or to give them to the person administering the student tests. The average time reported for answering the Adult Form of the questionnaire was twenty to thirty minutes.

ANALYSIS PROCEDURES

The following section will contain a description of the statistical tools and procedures used to analyze the data collected on the Mooney Problem Check List and the Sources of Guidance Questionnaire.

Mooney Problem Check List Data

The appropriate statistical tool for the analysis of the Mooney Problem Check List data is the median test for two samples (6:295). This statistic tests the general null hypothesis that the two contrasted samples are drawn from two identically distributed populations.

For each student who took the Mooney twenty-two scores were derived. A score was obtained for total and serious problems in each of the eleven Mooney problem areas. The score indicated the number of problems the student had marked in each of these twenty-two sections. Each group that was to be tested was then tabulated on the basis of how many of the students had checked one problem, two problems, three problems, etc., in each of the twenty-two parts. Next, the two groups that were being contrasted were put together and the median of the combined groups was determined.

The final frequencies were entered in the 2 x 2 contingency table (see Table III.4) by taking the number of individuals in each group below the median (indicating more problems marked) and those equal to and above the median (indicating fewer problems marked) and placing the numbers in the appropriate cells.⁹

⁹The statistical work sheets will be found in Appendix E.

TABLE III.4

SAMPLE 2 x 2 CONTINGENCY TABLE USED FOR MEDIAN
TEST OF MOONEY PROBLEM CHECK LIST DATA

	Group I	Group II
Equal to or fewer problems	a	b
More problems	c	d

The formula appropriate to the 2 x 2 contingency was used.¹⁰

The Yates Correctional Factor was included in the formula. This factor markedly improves the approximation of the χ^2 distribution in cases involving one degree of freedom and amounts to reducing the absolute value of each cell by .5 (6:225-226). It is easily incorporated in the formula by subtracting $\frac{1}{2}N$ from $|ad-bc|$ in the numerator before the difference is squared.¹¹

For example, assume that the Christian school males and females were being compared on the number of serious problems checked in the area of Morals and Religion. Each group would be tabulated according to how many of its members had marked zero problems, one problem, two problems, etc., in this particular area. Next, the two groups were combined to determine the median. Let us assume that the median falls on the individual or individuals who have marked two problems. The number of males who checked more than two problems were entered

¹⁰The formula employed including the Yates Correctional Factor is as follows: (6:226) $\chi^2 = \frac{(|ad-bc| - \frac{1}{2}N)^2}{N(a+b)(a+c)(b+d)(c+d)}$

¹¹Ibid.

in the lower cell of the 2 x 2 table. All those who marked two or less problems were placed in the upper cell. The same is done for the females. The formula is then applied and the test gives an indication whether there is a basic difference in the number of these serious problems marked by the males compared to the females in the area of Morals and Religion.

The generalized statistical null hypothesis tested was as follows:

H₀: the two contrasted groups will not differ significantly concerning the proportion of each group above and below the median.

The following groups were compared on the basis of the median test in testing the various hypotheses in this part of the study:

1. Christian school males compared to Christian school females on total number of problems checked.
2. Christian school males compared to Christian school females on number of serious problems checked.
3. Christian school male seniors compared to Christian school male sophomores on total number of problems checked.
4. Christian school male seniors compared to Christian school male sophomores on number of serious problems checked.
5. Christian school female seniors compared to Christian school female sophomores on total number of problems checked.
6. Christian school female seniors compared to Christian school female sophomores on number of serious problems checked.
7. Christian school males compared to public school males on total number of problems checked.
8. Christian school males compared to public school males on number of serious problems checked.
9. Christian school females compared to public school females on total number of problems checked.
10. Christian school females compared to public school females on number of serious problems checked.

11. Male seniors Class A compared to male seniors Class C-D on total number of problems checked.
12. Male sophomores Class A compared to male sophomores Class C-D on total number of problems checked.
13. Female seniors Class A compared to female seniors Class C-D on total number of problems checked.
14. Female sophomores Class A compared to female sophomores Class C-D on total number of problems checked.
15. Male seniors Class A compared to male seniors Class C-D on number of serious problems checked.
16. Male sophomores Class A compared to male sophomores Class C-D on number of serious problems checked.
17. Female seniors Class A compared to female seniors Class C-D on number of serious problems checked.
18. Female sophomores Class A compared to female sophomores Class C-D on number of serious problems checked.

A total of eighteen between group comparisons were made, each involving a separate statistical test in each of the eleven Mooney problem areas.

Because of the nature of the data and the intent to look for major trends, the .05 level of significance is appropriate for the acceptance or rejection of all hypotheses.

Questionnaire Data

The appropriate statistical tool for this type of data is chi square. A 2 x 2 contingency table was used and the appropriate formula employed.¹² See Table III.5 for the contingency table model.

¹²Ibid.

TABLE III.5

SAMPLE CHI SQUARE 2 X 2 CONTINGENCY TABLE USED FOR
TESTS OF QUESTIONNAIRE DATA WITH LIST
OF COMPARISONS MADE

	Agree	Disagree
Group I	a	b
Group II	c	d

Comparisons Made With 2 x 2 Table

In all cases the majority response of Group I was the basis of the comparison. All groups are from the Christian schools.

<u>Group I</u>	<u>Group II</u>
1. Leaders.....	Staff
2. Leaders.....	Seniors
3. Leaders.....	Sophomores
4. Staff.....	Seniors
5. Staff.....	Sophomores
6. Male seniors Class A.....	Male seniors Class C-D
7. Male soph, Class A.....	Male soph. Class C-D
8. Female seniors Class A.....	Female seniors Class C-D
9. Female soph. Class A.....	Female soph. Class C-D
10. Males.....	Females
11. Seniors.....	Sophomores

The generalized statistical null hypothesis tested was as follows:

H0: the two groups will not differ significantly concerning the proportion of each group with agree and disagree responses.

In each case, the Sources of Guidance Questionnaire responses were analyzed on the basis of the first or most important source of guidance listed in each of the eleven Mooney problem areas. This was appropriate because the first blank

was stipulated to be the most important source and was the only one of the five where an answer had to be given.

In order to facilitate the statistical procedure in each between group comparison, one group was arbitrarily designated Group I and the other Group II. The designation each group was assigned will be found in Table III.5. In each case, the comparison was based on the most important source of guidance as chosen by Group I. In each problem area, this majority response was called the "agree" response, and all other responses "disagree."

For example, if the Christian school leaders (Group I) chose the parents as the most important source of guidance in a problem area, then the parent responses were classified as "agree" responses, and all others in this problem area were "disagree" responses. To complete the comparison all parent responses in Group II were also called "agree" responses, and the remainder of Group II markings were classified as "disagree" responses.¹³

In three cases (see Table V.1) there were an identical number of responses within a group as to the most important source of guidance in a problem area. In these cases, one was arbitrarily selected upon which to make the comparison. The sources selected are starred in Table V.1.

When testing for class differences, seniors and sophomores were contrasted, assuming that likely differences in

¹³A statistical work sheet will be found in Appendix F.

sophistication would be revealed in their responses. The contrast between school sizes was also tested by comparing the extreme groups, meaning that Class A schools were compared with Class C-D schools. Class and sex designation was held constant by testing differences in the response of senior males in Class A against the senior males in Class C-D and the senior females in Class A against senior females in Class C-D. Identical procedures were followed when analyzing the responses of sophomores. The leader and teacher perceptions were compared to the senior and sophomore groups to determine if basic differences existed.

Other groups contrasted in the 2 x 2 tables were those of teachers and leaders and males and females. All 2 x 2 table comparisons using questionnaire data were only between Christian school groups. In all, eleven separate comparisons (one in each of the eleven Mooney questionnaire areas) were made in each of the eleven between group contrasts involving the use of 121 separate chi square 2 x 2 contingency tables.

SUMMARY

This chapter has contained a delineation of the methodology and procedures used to carry out the study. The Christian and public schools involved in the study were described along with the method used to select them. The individual sampling procedures were outlined for the student and the Christian school teacher groups. The selection of the Christian school leaders was also detailed.

The Mooney Problem Check List and the Sources of Guidance Questionnaire, the two instruments used in the study, were outlined along with the administrative procedures. The statistical analysis involving the chi square was explained, and the comparisons contained in the study were listed.

Having defined the problem, reviewed selected literature, and described the procedures for collecting and analyzing the data, the next step is to analyze the data itself. This is carried out in Chapters IV and V.

CHAPTER IV

AN ANALYSIS OF DIFFERENCES IN THE STUDENTS' PERCEPTIONS OF THEIR PROBLEMS

INTRODUCTION

The present chapter contains an analysis of the perceptions of the students problems as reported on the Mooney Problem Check List. The Check List and procedure used for collecting and analyzing the data have been fully described in Chapter III.

As previously stated, the median test for two samples was appropriate for these data. The .05 level of confidence was accepted for determining the acceptance or rejection of the hypotheses tested. There were eighteen between group comparisons. Each between group comparison involved eleven sub-comparisons, one for each Mooney problem area. The tests were used to ascertain whether differences existed between the various groups concerning the number of problems checked in each problem area. The generalized null hypothesis tested was:

H₀:there will be no significant difference between the contrasted groups concerning the number of problems marked in each of the eleven Mooney problem areas.

SIGNIFICANT FINDINGS

The following findings are deemed significant on the basis of the statistical procedures used. Each of the eighteen general hypotheses is listed along with a report of the statistical test results. A summary of these results is found in Tables IV.1 and IV.2. All contrasts involve only Christian school students unless otherwise noted.

Test of Sex Differences

1. There will be no significant differences between the males and females concerning the total number of problems marked in each of the eleven Mooney problem areas. A significant difference in marking was evidenced between the groups in the Mooney problem area of "Social-Psychological Relations." Reference to the raw data indicates the males marked fewer problems in this area.
2. There will be no significant differences between the males and females concerning the number of serious problems marked in each of the eleven Mooney problem areas. Differences in problems marked were evidenced in the following areas: "Health and Physical Development," "Social Recreational Activities," "Social-Psychological Relations," "Personal-Psychological Relations," "Courtship, Sex and Marriage," and "Home and Family." In all of these areas the males marked fewer problems than the females.

TABLE IV.1

SUMMARY OF MEDIAN TEST RESULTS OF MOONEY PROBLEM CHECK LIST DATA FOR COMPARISONS BETWEEN CHRISTIAN SCHOOL MALES AND FEMALES, MALE SENIORS AND MALE SOPHOMORES, FEMALE SENIORS AND FEMALE SOPHOMORES, CHRISTIAN SCHOOL MALES AND PUBLIC SCHOOL MALES, CHRISTIAN SCHOOL FEMALES AND PUBLIC SCHOOL FEMALES ON TOTAL AND SERIOUS PROBLEMS IN EACH OF ELEVEN MOONEY PROBLEM AREAS

Mooney Problem Areas ^a	Male vs. Female Total	Male Seniors Total	Sophs Serious	Female Seniors Total	Female vs. Sophs Serious	Males Chr. vs. Pub Total Serious	Females Chr. vs. Pub. Total Serious
1. HPD	1.04	1.86	.01	.13	1.65	.79 .07	.59 .06
2. FLE	2.57	2.16	.01	1.19	.72	7.33**5.60*	1.33 1.19
3. SRA	2.67	.02	1.70	1.08	.08	.17 3.00	.45 .45
4. CSM	3.18	.88	1.33	.05	2.78	.04 .09	.07 .77
5. SPR	26.88**	.79	.01	.01	.72	.08 .26	.48 .30
6. PPR	1.14	3.28	3.58	.02	.96	.13 7.20**	1.37 3.53
7. MR	.10	.69	.34	1.32	.03	4.89* .00	1.38 .00
8. HF	3.70	.00	.05	.02	.01	1.30 1.13	.82 .01
9. FVE	.27	.40	1.34	.00	.84	.67 4.05*	.01 2.91
10. ASW	.00	.10	2.28	.00	.82	.74 2.53	.08 .01
11. CTP	.31	1.41	.21	.03	.04	.94 .00	8.35** .11
Level of significance for all comparisons - 1 degree of Freedom - .05 - 3.84* .01 - 6.63**							

^a A description of the eleven Mooney problem areas can be found on page 44.

Test of Grade Differences

3. There will be no significant differences between male seniors and male sophomores concerning the total number of problems marked in each of the eleven Mooney problem areas. No significant differences were observable.
4. There will be no significant differences between male seniors and male sophomores concerning the number of serious problems marked in each of the eleven Mooney problem areas. No significant differences were observed.
5. There will be no significant differences between female seniors and female sophomores concerning the total number of problems marked in each of the eleven Mooney problem areas. No significant differences were indicated by the statistical test.
6. There will be no significant differences between female seniors and female sophomores concerning the number of serious problems marked in each of the eleven Mooney problem areas. No significant differences were evident.

Public-Christian School Contrasts

7. There will be no significant differences between Christian school males and public school males in the number of total problems marked in each of the eleven Mooney problem areas. Disproportionate markings were evidenced in the following two Mooney problem areas:

"Finances, Living Conditions and Employment," and "Morals and Religion." In both cases the Christian school males marked fewer problems.

8. There will be no significant differences between Christian school males and public school males in the number of serious problems marked in each of the eleven Mooney problem areas. Significant differences were observed in the following areas: "Finances, Living Conditions and Employment," "Personal-Psychological Relations," and "Future: Vocational, Educational." Here again, in all these cases the Christian school males marked fewer problems.

9. There will be no significant differences between Christian school females and public school females concerning the total number of problems marked in each of the eleven Mooney problem areas. A disproportionate marking of problems was evidenced only in the problem area of "Curriculum and Teaching Procedure." In this area the Christian school females marked a greater number of problems.

10. There will be no significant differences between Christian school females and public school females concerning the number of serious problems marked in each of the eleven Mooney problem areas. No significant differences were observed.

School Size Contrasts

11. There will be no significant differences between the male seniors in Class A and the male seniors in

TABLE IV.2

SUMMARY OF MEDIAN TEST RESULTS OF MOONEY PROBLEM CHECK LIST DATA FOR COMPARISONS BETWEEN
CHRISTIAN SCHOOL STUDENTS IN CLASS A SCHOOLS AND CLASS C-D SCHOOLS ON TOTAL
AND SERIOUS PROBLEMS IN EACH OF THE ELEVEN MOONEY PROBLEM AREAS

Mooney Problem Areas ^a	Male Seniors Class A vs. C-D Total	Female Seniors Class A vs. C-D Total	Male Sophomores Class A vs. C-D Total	Female Sophomores Class A vs. C-D Total	Sophomores Class A vs. C-D Total		
1. HPD	1.78	.06	.45	.08	1.88	2.15	2.95
2. FLE	3.06	.03	.03	.13	.39	.06	.03
3. SRA	.10	.05	1.52	.22	.05	.01	.11
4. CSM	.54	.16	.03	2.69	.31	.16	.42
5. SPR	.00	1.68	.04	.73	.05	2.36	.01
6. PPR	.08	.00	1.39	1.34	2.50	.00	3.53
7. MR	.01	.10	.03	.09	.69	.03	.53
8. HF	.13	.05	.02	.07	.91	.00	.03
9. FVE	.50	.06	.03	.01	.08	.01	.06
10. ASW	.58	1.91	.37	.61	1.11	.06	.43
11. CTP	.01	.01	.05	.04	.05	.41	.58

Level of significance for all comparisons - 1 degree of Freedom - .05 = 3.84*
.01 = 6.63**

^aA description of the eleven Mooney problem areas can be found on page 44.

Class C-D schools concerning the total number of problems the respondents mark in each of the eleven Mooney problem areas. No significant differences were evidenced.

12. There will be no significant differences between the male seniors in Class A and the male seniors in Class C-D schools concerning the number of serious problems the respondents mark in each of the eleven Mooney problem areas. No significant differences were observed.

13. There will be no significant differences between the male sophomores in Class A and the male sophomores in Class C-D schools concerning the total number of problems these respondents mark in each of the eleven Mooney problem areas. No significant differences were in evidence.

14. There will be no significant differences between the male sophomores in Class A and the male sophomores in Class C-D schools concerning the number of serious problems these respondents mark in each of the eleven Mooney problem areas. No significant differences were observed.

15. There will be no significant differences between the female seniors in Class A and the female seniors in Class C-D schools concerning the total number of problems these respondents mark in each of the eleven Mooney problem areas. A disproportionate marking of

problems is evidenced in the area of "Adjustment to School Work." The female seniors in Class C-D marked a greater number of problems in this area.

16. There will be no significant differences between the female seniors in Class A and the female seniors in Class C-D schools concerning the number of serious problems these respondents mark in each of the eleven Mooney problem areas. No significant differences were found.

17. There will be no significant differences between the female sophomores in Class A and the female sophomores in Class C-D schools concerning the total number of problems these respondents mark in each of the eleven Mooney problem areas. No significant differences were observed.

18. There will be no significant differences between the female sophomores in Class A and the female sophomores in Class C-D schools concerning the number of serious problems these respondents mark in each of the eleven Mooney problem areas. No significant differences were found.

SUMMARY

This chapter has included an analysis of the results of the student markings on the Mooney Problem Check List. Public and Christian school student responses were contrasted. Comparisons were also made within the Christian school student

sample to determine if differences existed on the basis of sex, grade level, and size of school. The median test for two samples was employed to test for basic differences in the marking of problems between the contrasted groups in each of the eleven Mooney problem areas. Having analyzed the data concerning the students' perceptions of their problems, the next task is to analyze the data concerning the sources of guidance the students say they use and are expected to use.

CHAPTER V

AN ANALYSIS OF THE DIFFERENCES IN CHRISTIAN STUDENTS, LEADERS, AND TEACHERS PERCEPTIONS OF PRIMARY SOURCES OF GUIDANCE

INTRODUCTION

The chapter will contain an analysis of the data collected on the Sources of Guidance Questionnaire. The Student Form of the questionnaire was used to determine the sources of guidance presently utilized by the students. The Adult Form, administered to Christian school leaders and teachers, assessed their perceptions of ideal sources of student guidance. The analysis is based upon the primary sources of guidance (first choices) in each of the eleven problem areas included in the questionnaire.

The Sources of Guidance Questionnaire and the procedures used to collect and analyze the data are described in Chapter III. Copies of the two forms of the questionnaire are found in Appendix A.

The statistical model used to analyze the data was the chi square. A 2 x 2 contingency table was employed. The generalized null hypothesis tested was:

H₀: there will be no proportionate differences between the contrasted groups concerning their markings of primary sources of guidance in each of the Mooney problem areas.

The .05 level of significance was accepted as the appropriate level for the rejection or acceptance of the hypotheses.

If the level of significance exceeded .05, the null hypothesis was rejected. Fourteen different groups were used in the statistical comparisons. Each between group comparison included eleven separate tests, one in each of the problem areas.

SIGNIFICANT FINDINGS

Highest Frequency Responses

Before presenting the results of the statistical tests, a brief description is presented of the primary sources of guidance as selected by each Christian school group in each of the eleven Mooney problem areas. A summary of these results is found in Table V.1. Each source of guidance listed is the highest frequency response by the group in the problem area. Table V.1 also contains an indication of the per cent of each group which selected the source of guidance as its first choice. The following Christian school groups are included in the summary: Christian school leaders, teachers, seniors, sophomores, males, females, Class A, and Class C-D.

1. Health and Physical Development Both the leaders and teachers indicated the primary source of guidance should be the "family doctor." Each of the six student groups reported that their "parents" were the most important source of help.

2. Finances, Living Conditions and Employment All eight groups reported the "parents" as the most important source of guidance in this area.

3. Social Recreational Activities Both the leaders and teachers indicated that the "parents" should be the most

important source of help. The sophomore and Class C-D groups also reported the "parents" first; however, the seniors, males, females, and Class A groups reported their "friends" as the most important source of guidance in this area.

4. Courtship, Sex and Marriage All eight groups reported the "parents" as the source which should be used and which was used as the primary source of guidance.

5. Social-Psychological Relations Each of the eight groups agreed upon the "parents" as the primary source of help.

6. Personal-Psychological Relations The teachers' perceptions indicated an equal number of responses for the "parents" and "school personnel" as the primary sources in this area. All other groups listed the "parents."

7. Morals and Religion The leader and Class A groups reported the "parents" as the most important source of help. The males, females, seniors, sophomores, and Class C-D groups all indicated the "church" as the most important source of help. The teacher's responses were evenly divided between the "parents" and "church" as the most important source.

8. Home and Family All eight groups indicated the "parents" as the primary source of help in this problem area.

9. Future: Vocational, Educational The teachers perceived the "school personnel" as the source that should be used. The leaders were evenly divided between "school personnel" and "parents" for the best guidance sources in this area. The six student groups all indicated the most important help comes from the "parents."

TABLE V.1

THE PRIMARY SOURCES OF GUIDANCE AS SELECTED BY THE CHRISTIAN SCHOOL LEADERS, TEACHERS, TOTAL STUDENTS, MALES, FEMALES, SENIORS, SOPHOMORES, CLASS A AND CLASS C-D GROUPS WITH THE PERCENTAGE OF EACH GROUP SELECTING THE PRIMARY SOURCE FIRST IN EACH OF ELEVEN MOONEY PROBLEM AREAS

Mooney Areas	Leaders N-22	Teachers N-38	All Students N-407	Male N-186	Female N-221	Seniors N-113	Sophomores N-149	Class A N-140	Class C-D N-129
1. HPD	Family Dr. 54.5	Family Dr. 63.1	Parents 67.6	Parents 61.1	Parents 68.8	Parents 64.6	Parents 67.1	Parents 61.4	Parents 78.3
2. FLE	Parents 90.9	Parents 81.5	Parents 79.4	Parents 78.5	Parents 80.1	Parents 77.9	Parents 81.2	Parents 75.0	Parents 80.6
3. SRA	Parents 81.8	Parents 68.4	Friends 40.5	Friends 43.0	Friends 38.5	Friends 47.8	Parents 37.6	Friends 47.1	Parents 49.6
4. CSM	Parents 86.4	Parents 86.8	Parents 52.1	Parents 43.0	Parents 59.7	Parents 44.2	Parents 54.4	Parents 43.6	Parents 55.8
5. SPR	Parents 54.5	Parents 52.6	Parents 39.1	Parents 34.4	Parents 43.0	Parents 38.1	Parents 41.6	Parents 31.4	Parents 47.3
6. PPR	Parents 54.5	School Pers.* & Parents 36.8	Parents 40.3	Parents 39.2	Parents 41.2	Parents 36.3	Parents 45.6	Parents 40.7	Parents 48.8
7. MR	Parents 81.8	Church* & Parents 47.3	Church 42.8	Church 42.5	Church 43.0	Church 44.2	Church 42.3	Parents 38.6	Church 52.7
8. HF	Parents 40.9	Parents 36.8	Parents 32.2	Parents 34.9	Parents 29.9	Parents 28.3	Parents 33.6	Parents 26.4	Parents 29.5
9. FVE	School Pers.* & Parents 45.4	School Pers. 81.5	Parents 52.6	Parents 54.8	Parents 50.7	Parents 51.3	Parents 56.4	Parents 47.9	Parents 55.0
10. ASW	School Pers. 77.3	School Pers. 81.5	School Pers. 42.0	School Pers. 44.1	School Pers. 40.3	School Pers. 40.7	School Pers. 43.0	Parents 40.0	School Pers. 51.2
11. CTP	School Pers. 59.1	School Pers. 65.8	School Pers. 41.0	School Pers. 40.9	School Pers. 41.2	School Pers. 37.2	School Pers. 40.3	School Pers. 42.9	School Pers. 37.2

*In the case of a tie the starred source was used in the statistical test.
Note: Only the highest frequency response is reported in each problem area.

10. Adjustment to School Work The Class A group indicated the "parents" as the chief source to be used in this area, and all other groups listed the "school personnel" as the primary source of guidance.

11. Curriculum and Teaching Procedure All eight groups agreed the most important source of help in this area should be the "school personnel."

Statistical Test Results

Having briefly described the high frequency responses, attention will now be turned to the statistical analysis and the 2 x 2 contingency table results of the between group comparisons. The eleven specific hypotheses tested are listed with any significant findings. Each between group comparison involved separate contrasts in each of the eleven Mooney problem areas. A summary of the findings is found in Table V.2.

1. There will be no proportionate difference between the Christian school leaders and Christian school teachers marking of the primary source of guidance which they perceive Christian school students should use in each of the eleven Mooney problem areas. The only significant difference between the two groups concerning their perceptions of where the students' guidance should come was in the problem area of "Morals and Religion."

2. There will be no proportionate difference between Christian school leaders' perceptions of the primary sources of guidance their students should use and the Christian school seniors report of the primary sources of guidance currently used in each of the eleven Mooney problem areas. There was a

TABLE V.2

A SUMMARY OF THE RESULTS OF THE CHI SQUARE TEST COMPARING PRIMARY SOURCES OF GUIDANCE, CONTRASTS BETWEEN CHRISTIAN SCHOOL LEADERS AND TEACHERS, LEADERS AND SENIORS, LEADERS AND SOPHOMORES, TEACHERS AND SENIORS, TEACHERS AND SOPHOMORES, SENIORS AND SOPHOMORES, MALES AND FEMALES, AND FOUR CLASS A AND CLASS C-D GROUPS IN EACH OF THE ELEVEN MOONEY PROBLEM AREAS

Mooney Problem Areas ^a	Leaders vs Teachers	Leaders vs Seniors	Leaders vs Sophs.	Teachers vs Seniors	Teachers vs Sophs.
1. HPD	.15	11.86**	11.75**	26.30**	27.52**
2. FLE	.36	1.22	.67	.06	.03
3. SRA	.68	24.19**	13.53**	21.72**	10.47**
4. CSM	.12	11.44**	6.82**	19.16**	12.09**
5. SPR	.02	1.45	.83	1.92	1.08
6. PPR	1.13	1.65	.30	24.30**	21.95**
7. MR	5.53*	10.89**	10.88**	.02	.15
8. HF	.00	.85	.21	.61	.04
9. FVE	.22	2.61	.97	9.95**	5.95**
10. ASW	.00	8.48**	7.73**	17.41**	16.56**
11. CTP	.06	2.81	2.06	8.31**	6.96**

Level of significance for all comparisons - 1 degree of freedom -
 .05 = 3.84*

.01 = 6.63**

^aA description of the eleven Mooney problem areas can be found on page 44.

TABLE V.2-Continued

Seniors vs Sophs.	Male vs Female	Male Srs. A vs. C-D	Male Soph. A vs. C-D	Female Srs. A vs. C-D	Female Soph. A vs. C-D
.09	.21	.20	6.06*	.00	3.44
.26	.21	1.39	.05	.13	.01
5.92*	.69	1.91	.00	.10	.62
2.24	10.65**	.88	1.60	.00	1.79
.21	2.77	.69	.20	1.60	.22
1.95	.09	.04	1.21	.11	.05
.04	.00	.07	1.21	.10	.37
.59	.97	2.46	.11	5.16*	3.33
.47	.54	.04	.00	.12	.29
.06	.46	.62	1.88	2.01	3.04
.15	.00	.00	.26	.00	1.79

discrepancy between where the leaders indicated the students should receive their guidance and where the seniors reported they did obtain it in the problem areas of "Health and Physical Development," "Social Recreational Activities," "Courtship, Sex and Marriage," "Morals and Religion," and "Adjustment to School Work."

3. There will be no proportionate difference between the Christian school leaders' perceptions of the primary sources of guidance Christian school students should use and their sophomore students' report of the primary sources of guidance currently used in each of the eleven Mooney problem areas. There was a proportionate difference between where the leaders perceived the students should receive their guidance and where the sophomores indicated they did obtain their guidance in the areas of "Health and Physical Development," "Social Recreational Activities," "Courtship, Sex and Marriage," "Morals and Religion," and "Adjustment to School Work."

4. There will be no proportionate difference between the Christian school teachers' perceptions of the primary sources of guidance Christian school students should use and their senior students' report of the primary sources of guidance currently used in each of the eleven Mooney problem areas. Differences were observable between where the teachers perceived the students should receive their guidance and where the seniors indicated they do receive their guidance in the areas of "Health and Physical Development," "Social Recreational Activities," "Courtship, Sex and Marriage," "Per-

sonal-Psychological Relations," "The Future: Vocational, Educational," "Adjustment to School Work," and "Curriculum and Teaching Procedure."

5. There will be no proportionate difference between the Christian school teachers' perceptions of the primary sources of guidance Christian school students should use and their sophomore students report of the primary sources of guidance currently used in each of the eleven Mooney problem areas. There was a proportionate difference between where teachers perceived students should obtain their guidance and where sophomores indicated they did receive their guidance in the areas of "Health and Physical Development," "Social Recreational Activities," "Courtship, Sex and Marriage," "Personal-Psychological Relations," "The Future: Vocational, Educational," "Adjustment to School work," and "Curriculum and Teaching Procedure."

6. There will be no proportionate difference between the male seniors in Class A and the male seniors in Class C-D concerning the primary source of guidance they report using in each of the eleven Mooney problem areas. There were no significant differences observable.

7. There will be no proportionate difference between the female seniors in Class A and the female seniors in Class C-D concerning the primary sources of guidance they report using in each of the eleven Mooney problem areas. A discrepancy was evidenced between where the groups indicated they received their guidance in the area of "Home and Family."

8. There will be no proportionate difference between the male sophomores in Class A and the male sophomores in Class C-D concerning the primary source of guidance they report using in each of the eleven Mooney problem areas. There was a proportionate difference between where the groups indicated they received their guidance in the area of "Health and Physical Development."

9. There will be no proportionate difference between the female sophomores in Class A and the female sophomores in Class C-D concerning the primary source of guidance they report using in each of the eleven Mooney problem areas. There was no significant difference observable.

10. There will be no proportionate difference between the male and female students concerning the primary source of guidance they report using in each of the eleven Mooney problem areas. One difference was observable between where the males and females indicated they received their guidance. This was in the area of "Courtship, Sex and Marriage."

11. There will be no proportionate difference between the seniors and sophomores concerning the primary source of guidance they report using in each of the eleven Mooney problem areas. There was a significant difference between seniors and sophomores relative to where they indicated they received their guidance in the area of "Social Recreational Activities."

SUMMARY

The chapter has contained a summary of the data collected on the Sources of Guidance Questionnaire. Adult per-

ceptions of the sources of guidance which the Christian school students should use were contrasted with the student reports of where they do obtain their guidance. A description of the high frequency responses was presented as well as the results of the chi square tests applied to the questionnaire responses. Having concluded the analysis of the data, the focus of the study turns next to Chapter VI and the summary and conclusions of the study.

CHAPTER VI

SUMMARY AND CONCLUSIONS

THE PROBLEM

The purpose of the current study was to investigate the "problem patterns" and "sources of guidance" of Christian high school students in schools affiliated with the National Union of Christian Schools in Michigan and Illinois. The study involved nine institutions enrolling over 3,000 students. The nine schools enroll slightly over 50% of the high school students in schools affiliated with the National Union in the United States.

The students' perceptions of their own problems were determined through the use of the Mooney Problem Check List, High School Form, 1950 revision. Comparisons were made between student groups to determine if basic differences existed in problems checked with regard to sex, grade level, size of school, or type of school (i.e. Christian versus public schools). Each group contrast involved the eleven problem areas found on the Mooney Problem Check List, and separate comparisons were made on the basis of the total number of problems checked and the number of serious problems marked on the Check List.

For purposes of school size comparisons, the schools were categorized into three divisions: A, B, and C-D. The

divisions were made on the basis of the Michigan High School Athletic Association classification system.

The sources of guidance were studied through the use of a Sources of Guidance Questionnaire, adult and student forms, developed for the study. The questionnaire was based on the Mooney Problem Check List. In each of the eleven Mooney problem areas the students were asked to indicate the sources of guidance they had used or would use to obtain help for the problems in that specific area. The adults (a group of Christian school teachers and a group of Christian school leaders) were asked to indicate the sources of guidance they believed the students should use in each problem area. Comparisons were made between the adult groups, between the adult and student groups, and between twelve different student divisions to test for differences due to sex, grade level, and size of school.

The student data was obtained by visiting each of the nine Christian high schools and administering the Mooney Problem Check List and Sources of Guidance Questionnaire. Each instrument was administered to approximately 12.5% of the students in each school. The students were selected by a stratified random sampling technique. The sample was dicotomized on the basis of sex and stratified by grades (ten, eleven, and twelve). Four public high schools were selected for the public-Christian school comparisons of Mooney Problem Check List data. They were selected by a stratified random sampling technique from groups of public schools, matched on the basis of size and community location, with Christian high schools.

All four public high schools selected provided one class in a required subject on each of the three upper grade levels as a sample to be used in the study. The schools were visited, and the Check List was administered to the selected classes.

The self-administering Adult Form of the Sources of Guidance Questionnaire was sent to a 25% random sample of the 152 teachers in the nine Christian high schools. A group of twenty-two Christian school leaders, nominated by Christian school administrators, were also sent the Adult Form of the questionnaire. All instruments in the study were taken anonymously.

The Mooney Problem Check List data was analyzed by use of the median test for two samples. This statistic was used to test for differences in the problems marked on the Mooney between the following groups: (1) males and females, (2) male seniors and male sophomores, (3) female seniors and female sophomores, (4) Christian school males and public school males, (5) Christian school females and public school females, (6) male seniors in Class A and male seniors in Class C-D, (7) female seniors in Class A and female seniors in Class C-D, (8) male sophomores in Class A and male sophomores in Class C-D, and (9) female sophomores in Class A and female sophomores in Class C-D. For each between group comparison a duplicate set of tests was used for the total number of problems and for the number of serious problems as marked on the Mooney Problem Check List.

Four general null hypotheses were tested:

1. There will be no significant differences between the males and females relative to their perceived problems.
2. There will be no significant differences between the different grade levels relative to their indicated problems.
3. There will be no significant differences between the students in schools of different sizes relative to their perceived problems.
4. There will be no significant differences between Christian school students and public school students relative to the problems they mark.

The Sources of Guidance Questionnaire data was analyzed using the chi square test of difference. The 2 x 2 contingency table was used. The following Christian school groups were contrasted: (a) leaders and teachers, (b) leaders and seniors, (c) leaders and sophomores, (d) teachers and seniors, (e) teachers and sophomores, (f) male seniors Class A and male seniors Class C-D, (g) female seniors Class A and female seniors Class C-D, (h) male sophomores Class A and male sophomores Class C-D, (i) female sophomores Class A and female sophomores Class C-D, (j) males and females, and (k) seniors and sophomores.

Six general null hypotheses were tested:

1. There will be no proportionate difference between the Christian school leaders and Christian school teachers perceptions of the primary sources of guidance

their students should use in each of the eleven problem areas.

2. There will be no proportionate difference between the Christian school leaders' perceptions of the "ideal" sources of guidance and their students report of the sources of guidance used in each of the eleven problem areas.

3. There will be no proportionate difference between the Christian school teachers' perceptions of the "ideal" sources of guidance and their students report of the sources of guidance used in each of the eleven problem areas.

4. There will be no proportionate differences among the students attending different size schools relative to the primary source of guidance they report they use in each of the eleven areas.

5. There will be no proportionate difference between the males and females relative to the primary source of guidance reported used in each problem area.

6. There will be no proportionate difference between the students in the tenth, eleventh, and twelfth grades relative to the primary source of guidance the students report they use in each of the eleven problem areas.

In all cases, the .05 level of confidence was used as the basis for acceptance or rejection of the null hypotheses.

THE FINDINGS

Results of Between Group Comparisons of Students Perceptions of Their Problems

The four general null hypotheses that were tested are listed below with the results of the group contrasts used to test them.

1. There will be no significant differences between the males and females concerning their perceived problems.

(a) Males versus females, total number of problems. A significant difference was found in the Mooney problem area of "Social-Psychological Relations."

The females checked more problems in this area, and the males fewer.

(b) Males versus females, number of serious problems.

A disproportionate marking of problems was evidenced in the following areas: "Health and Physical Development," "Social Recreational Activities," "Courtship, Sex and Marriage," "Social-Psychological Relations," "Personal-Psychological Relations," and "Home and Family." In all cases, the females checked a greater number of problems in the areas where a statistically significant difference was found.

On the basis of the statistical tests, it is evident that there are differences between the sexes concerning the problems checked. The general null hypothesis can be rejected for both total and serious problems. It should be noted, however, that

on the comparison based on total number of problems only one difference was observed. Reference to the raw data indicated that in each case of a statistical difference the males have checked fewer problems in the area.

2. There will be no significant differences between the students in different grades concerning the problems indicated.

(a) Male seniors versus male sophomores, total number of problems. No significant differences were observed.

(b) Male seniors versus male sophomores, number of serious problems. No significant differences were found.

(c) Female seniors versus female sophomores, total number of problems. No significant differences were found between the groups.

(d) Female seniors versus female sophomores, number of serious problems. No statistically significant differences were in evidence.

Of the four specific null hypotheses tested none are rejected on the basis of the statistical tests. No statistically significant differences were evidenced between the samples contrasted. It can thus be said that there were no significant differences in problems checked between the students on different grade levels in the study.

3. There will be no proportionate differences between the students in different sized schools concerning their perceived problems.

(a) Male seniors Class A versus male seniors Class C-D, total number of problems. There were no significant differences.

(b) Male seniors Class A versus male seniors Class C-D, number of serious problems. No significant differences were found.

(c) Male sophomores Class A versus male sophomores Class C-D, total number of problems. No significant differences were found.

(d) Male sophomores Class A versus male sophomores Class C-D, number of serious problems. The statistical tests indicated no significant differences.

(e) Female seniors Class A versus female seniors Class C-D, total number of problems. "Adjustment to School Work" was the only problem area showing a discrepancy. The Class C-D group checked a greater number of problems.

(f) Female seniors Class A versus female seniors Class C-D, number of serious problems. No significant differences in individual problem areas exceeded the .05 level of significance.

(g) Female sophomores Class A versus female sophomores Class C-D, total number of problems. There were no significant differences between the groups.

(h) Female sophomores Class A versus female sophomores Class C-D, number of serious problems. No significant differences between the three groups were apparent.

Of the eighty-eight individual median tests for differences in the problems marked in different sized schools, one differed significantly. This could be expected by chance. On the basis of this, it can be said that there are few apparent basic differences in the problems of the Christian high school students in this study as far as school size is

concerned. The one significant difference was between the female seniors in Class A versus Class C-D in the problem area of "Adjustment to School Work." Reference to the data indicates that the Class C-D group checked a greater number of problems. This may reflect the fact that the female seniors in the smaller schools have more problems in this area. It may also mean that the problems of the girls in the Class A high school were fewer or that better help was available to them in solving these problems. The writer would assume the latter to be true because the Class A sample came from only one school, and this school had the most advanced guidance program of any of the Christian schools in the study.

4. There will be no significant differences between Christian and public school students relative to their indicated problems.

(a) Christian school males versus public school males, total number of problems. Discrepancies were indicated between the groups in each of the following problem areas: "Finances, Living Conditions and Employment" and "Morals and Religion." In each case, the public school students marked a greater number of problems in the area.

(b) Christian school males versus public school males, number of serious problems. Significant differences were found in the following areas: "Finances, Living Conditions and Employment," "Personal-Psychological Relations," and "Future: Vocational, Educational." In each case, the public school students again marked a greater number of problems in the problem area.

(c) Christian school females versus public school females, total number of problems. One problem area was found to be of disproportionate concern. It was the area of "Curriculum and Teaching Procedure."

(d) Christian school females versus public school females, number of serious problems. No significant differences were found between the groups.

In all, forty-four separate median tests were computed in testing for basic differences between the public and Christian school students. Of the forty-four tests six were found to indicate significant differences. Of the six, five were differences between the male groups, and in all five cases the public school group had checked a greater number of problems. Among the females only one difference was observed, and here the Christian school group evidenced a greater concern by checking more problems. The tests reveal that the public school females and Christian school females are not significantly different in their over-all problem patterns. The public and Christian school males do differ in five of the twenty-two areas so that while having many similarities these groups also evidence discrepancies.

Results of the Comparisons Based on the Sources of Guidance Questionnaire Data

Each between group comparison involved eleven separate contrasts, one in each problem area. The general null hypotheses that were tested and the significant findings follow:

1. There will be no proportionate difference between the Christian school leaders and teachers' perceptions of the primary sources of guidance their students should use in each problem area.

(a) Leaders versus teachers The null hypothesis is accepted in ten of the eleven problem areas. Only in "Morals and Religion" is there a discrepancy.

2. There will be no proportionate difference between the Christian school leaders' perceptions of the sources of guidance the students should use and the students report of the sources of guidance they do use in each problem area.

(a) Leaders versus seniors Discrepancies were found in the following five areas: "Health and Physical Development," "Social Recreational Activities," "Courtship, Sex and Marriage," "Morals and Religion," and "Adjustment to School work." The null hypothesis is therefore accepted in six of the problem areas and rejected in the above five areas.

(b) Leaders versus sophomores Diversities were indicated in the same five areas as in the leaders versus seniors contrasts (a). The null hypothesis is again accepted in six of the problem areas.

3. There will be no proportionate difference between the teachers' perceptions of the sources of guidance the students should use and the students report of the sources of guidance they do use in each of the eleven Mooney problem areas.

(a) Teachers versus seniors Significant differences were found in the following problem areas: "Health and Physical Development," "Social Recreational Activities," "Courtship, Sex and Marriage," "Personal-Psychological Relations," "Future: Vocational, Educational," "Adjustment to School Work," and "Curriculum and Teaching Procedure." The null hypothesis is accepted in four of the problem areas and rejected in the above seven areas.

(b) Teachers versus sophomores Discrepancies were found in the same seven areas as in the teachers versus seniors contrasts (a). The null hypothesis is therefore again accepted in four of the eleven problem areas.

4. There will be no proportionate difference between the students attending different sized schools relative to the primary sources of guidance they report they use in each problem area.

(a) Male seniors Class A versus male seniors Class C-D
No dissimilarities were found. The null hypothesis is accepted in all eleven areas.

(b) Female seniors Class A versus female seniors Class C-D Of the eleven areas, a variation was found in "Home and Family." The null hypothesis is accepted in ten of the eleven problem areas.

(c) Male sophomores Class A versus male sophomores Class C-D A discrepancy was found in only the area of "Health and Physical Development." The null hypothesis is accepted in ten of the eleven Mooney areas.

(d) Female sophomores Class A versus female sophomores Class C-D No significant differences were observable in any of the eleven problem areas. The null hypothesis is accepted in all the eleven areas.

5. There will be no proportionate difference between the males and females relative to the primary source of guidance reported used in each problem area.

(a) Male versus female Of the eleven tests, one was significant. This was in the area of "Courtship, Sex and Marriage." The null hypothesis is accepted in ten of the eleven problem areas.

6. There will be no significant difference between grades as to the students' perceptions of the primary sources of guidance used in each problem area.

(a) Seniors versus sophomores Again in only one of the eleven areas was a discrepancy observable, and this was in "Social Recreational Activities." Therefore, acceptance of the hypothesis is justified in all areas but the one listed.

On the basis of the testing of the six preceding null hypotheses, the following statements can be made. With the exception of one problem area, the two adult group samplings agree with each other concerning where the students should receive their guidance. There is significant disagreement, however, between the adult and student groups in over half of the problem areas. This indicates that the students sampled are not using the sources of guidance suggested by the adults as "ideal." When the students were compared on the basis of

sex, grade level, and size of school regarding the sources of guidance used, only minor differences existed. In sixty-six areas of comparison significant differences were evidenced in only four problem areas. This indicates that, in general, the student groups contrasted in the Christian schools report they are receiving their guidance from similar sources.

CONCLUSIONS

The following conclusions are drawn from the study and are subject to the limitations of it.

1. There are significant differences between the sexes in the number of serious problems marked on the Mooney Problem Check List but few in the total number of problems checked. (Six of the eleven were significant in serious problems, and only one of eleven in the total problems)
2. There are no significant differences between the different grade levels in the problems indicated as ones of concern to the students.
3. There are minimal differences between the Christian school males and public school males concerning their indicated problems (two of eleven problem areas were significantly different based on the total number of problems checked, and three of eleven were significantly different in the number of serious problems marked). The public school female and Christian school female contrasts evidenced one dissimilarity in the twenty-two

comparisons (one significant difference in total problems). Generally speaking, the public and Christian school problem patterns were much alike.

4. There was one significant difference between the students in different sized schools concerning the problems indicated (one significant difference in eighty-eight median tests completed). Therefore, it can be said that the problems of students in different sized schools in this study do not seem to be significantly different.

5. The Christian school leaders and Christian school teachers agree concerning the primary sources of guidance which they believe the students should use. (One difference was noted in the eleven problem areas where comparisons were made).

6. There are proportionate differences between the Christian school leaders' perceptions of the sources of guidance the students should use and the seniors and sophomores report of the sources used. (Five of the eleven problem areas contain significant differences.)

7. There are proportionate differences between the Christian school teachers' perceptions of the guidance sources the students should use and the seniors and sophomores report of the sources used. (Seven of the eleven problem areas contain significant differences.)

8. When the seniors and sophomores were compared, there was one significant difference in the eleven problem areas

concerning the sources of guidance these respondents utilize. Therefore, students in different classes in school do not seem to differ concerning the sources of guidance they use.

9. When the males and females were compared, there was one significant difference in the eleven Mooney areas concerning the sources of guidance they utilize. The males and females do not seem to differ significantly in their reported sources of guidance.

10. There were two significant differences between the students in different sized schools concerning the sources of guidance they utilized. (Two significant differences in forty-four separate tests.) Therefore, it can be generalized that students in different sized schools tend to use the same sources of guidance.

IMPLICATIONS

Having completed the presentation of the study, the writer would at this point like to take the liberty of making some statements concerning guidance in the Christian schools. The following statements and conclusions are based upon the writer's personal experience and research. The following views have been influenced by four years of teaching experience in a Christian high school as well as the background presented by doing the research for this thesis.

The writer's views can best be presented by answering two crucial questions: (1) Do Christian high schools need organized guidance programs staffed with trained counselors?

If question one is answered in the affirmative, then the second question should be the following: (2) What type of guidance should the school provide?

The writer believes that Christian high schools should have guidance programs directed by trained people for the following reasons:

1. The Increased Vocational Complexity in our Society

One of the major tasks of counselors is to aid students in vocational selections. American culture is the most technical, specialized, and complex in history and is continuing to move further in that direction. In the eighteenth century, 90% of all Americans were farmers. Vocational choices were few. Today there are roughly 44,000 jobs from which to choose. What parent or teacher has knowledge of more than a few of these jobs? What parent can be objective about the abilities and aptitudes of his child? A specialist is needed to help young people assess their talents and to become acquainted with the world of work. Of the 330 problems on the problem check list used in the guidance study, the one that ranked seventh in importance among the young men was "needing to decide on a vocation." This indicates the importance of the problem of a vocational choice among the young men in the Christian high schools. (This problem is ranked as one of the top twenty-five by the young women in the Christian schools.) Further, the Christian school leaders in the guidance study indicated that the Christian school should have the primary respon-

sibility for providing guidance in the vocational area. These reasons justify trained vocational counselors in the schools. In fact, if counselors did nothing but vocational counseling, they would be a valuable asset to the schools and would fully justify their addition to the school staff.

2. The Development of Specialized Knowledge and Skills in the Behavioral Sciences In recent years psychology and sociology have developed rapidly and have uncovered useful material on human behavior. A specialist is needed in each school to master this subject matter, to keep abreast of new developments, to test them against "Biblical truth," to interpret them to faculty and parents, and to apply the material to the school situation. Included in this material are tests and measurements. Each school needs a specialist to utilize these instruments in a correct and helpful manner. Much misuse of tests is taking place in the schools, and a specialist could help to correct this situation.

This body of knowledge in the behavioral sciences will continue to grow and to become more useful. The average teacher does not have the time to master and apply it. A specialist is needed. The counselor becomes that specialist and applies this knowledge to the vocational, educational, and personal-social problems of the students.

3. Adolescent Problems Probably the most difficult period in the American society is adolescence. This

period between childhood and adulthood is filled with problems and decisions which affect the rest of the individual's life. The period is also often characterized by a loosening of parental ties which sometimes limit the effectiveness of parental guidance. An understanding counselor who develops the confidence of the students can be a valuable supplement to the guidance provided by the parents in this transitional period of life.

4. Prevention of Educational Waste With the pressing weight of the numbers of students who are entering schools, it is important that educational waste be prevented. With his specialized knowledge the counselor can through counseling and testing help students select courses and curricula within their abilities. Gifted children and underachievers can be identified, and in many cases the full benefits of the educational process can be brought to bear upon them. Many students fail to do their best in school because personal problems absorb their attention and energy. Counselors can perform a real service in this area by helping to remove the blocks to full utilization of abilities.

5. Leading Educators Support Guidance The vast majority of leading educators in the United States today support guidance services wholeheartedly. The recent Conant report calls for one full time counselor for every 250 to 300 high school students. Christian schools

should not accept per se every program that develops in the public schools without carefully weighing its merits. After evaluating the merits of guidance programs, however, it will be found that the counsel of our country's leading educators is sound. The guidance study also indicated that the problem patterns of public and Christian school students are similar in many respects. This implies that if guidance is necessary in public schools it may be appropriate in Christian schools also.

6. Needed for Accreditation A reflection of the truth in statement five can be seen in the fact that accreditation agencies are planning in the near future to require schools to have full time counselors before they can be fully accredited. The North Central Association, for example, has stated that the high schools under its jurisdiction must have one counselor for each 300 students by the 1963-64 school year to be fully accredited.

7. Christian School Leaders Views In the guidance study, the Christian school leaders assigned primary guidance functions to the schools in three of the eleven problem areas dealt with in the study. It would seem that the handling of these guidance functions can best be handled by trained counselors outfitted with specialized training to handle this all important task.

Do Christian schools need organized guidance programs? The writer believes the answer is clear and affirmative.

The next question that needs to be answered is what type of guidance should the school provide? It is difficult to discuss guidance and guidance sources because of the complexity involved. The framework used by this study (i.e. the eleven Mooney problem areas and Primary Sources of Guidance) is not ideal but it is helpful in studying and discussing the problem under consideration. Therefore, this framework will be used here to aid in the answering of the question that has been posed. It should be recognized that the following are broad generalizations.

Each student is unique with his own problems and with his own guidance resources which might well offer more appropriate help on occasions than the guidance sources about to be listed as ideal. It is with this in mind that the following are presented as ideal sources of guidance. The over-all guidance of the Christian school young people will first be discussed and followed by a section summarizing the school's role in the total guidance picture.

The writer believes the following sources of guidance should be used by the Christian high school students in each problem area.

1. Health and Physical Development The parents should be primarily responsible for providing guidance in this area up to a certain point. The parents should recognize the danger signals of most diseases and be prepared to immediately send their children to a doctor. The current study indicates that 67.6% of the students

had gone or would go to their parents with a problem concerning health. This is good if the parents will recognize problems that need professional attention by a doctor and be willing to send their children to him. The school may play a minor role here by providing information of a health nature in connection with biology, physiology, general science or other related courses, but it need not be a major emphasis. The school may further provide a nurse to take care of emergencies, give first aid, and coordinate inoculation programs. The basic essentials of good health as well as help in solving problems in health and physical development, however, should be given to the child primarily by the home.

2. Finances and Living Conditions The parents should be primarily responsible for guidance in this area also. This viewpoint is in agreement with that of the teachers and Christian school leaders and also with the students who report that they do go to their parents for help on this type of problem in the majority of cases.

3. Social and Recreational Activities The area of social and recreational activities in the Christian school setting is one area that needs to be clarified and improved both from the standpoint of guidance and from the standpoint of providing attractive recreational activities. The conservative churches which support the Christian schools have been quick to condemn the movies, dances, and other recreation afforded public school

children but they have been slow to suggest positive replacements. Parents have by and large followed the lead of the churches. The students indicate they go to their friends for help in this area in larger numbers than they do to their parents. This is a reflection of the negative approach to recreation which is still looked upon in some circles as a waste of time. The parents should be primarily responsible for guidance in this area and the church and school should actively develop programs of wholesome recreation. Much of the misconduct on the part of Christian school young people can be traced in part to the lack of positive guidance in this area and the lack of wholesome recreational opportunities.

4. Courtship, Sex and Marriage The parents should be primarily responsible for guidance in this area. The sex life of a child begins at birth and questions relating to sex are forthcoming before a child enters school. Because sex questions will have to be dealt with as they arise, the parents will of necessity be involved in sex education before the child enters school. There is no reason why the school or any other agency should assume these responsibilities when a child reaches a certain age. The guidance, education, and development of attitudes in the area of sex should continue to be the parent's responsibility. If sex education only involved the presenting of facts and information, perhaps the

school could play a major role. This is not true, however, because it is an area deeply laden with attitude formation of a highly emotional nature. Even a school system as homogeneous as the Christian school system would have difficulty presenting a program of sex education satisfactory to all the parents. It is therefore believed that the parents are in the best position to deal with the problems that arise in this area. This means that some parents will have to work to handle the task adequately, but the reward will be well worth it. If there is good rapport and understanding between parent and child this can be an extremely rewarding experience for both parent and child. The school counselor can and should be prepared to give assistance to parents who need and desire help in carrying out their responsibilities in this area.

5. Social-Psychological Relations Again in this area, the parents should be primarily responsible for providing help. This view is in agreement with the views of the Christian school leaders and teachers sampled in this study. The church and the school should be actively concerned to the point of offering aid. The church should be actively involved because religion presents the basic essentials concerning man's relations with his fellow man as well as his inner feelings. The school with the trained counselor has a wealth of material in the areas of psychology and sociology which should be

available to students with special problems in this area. The parents, then, should be primarily responsible, but the church and school should provide positive supplementary programs to assist and aid the parents in this area which is one of the most important areas listed here.

6. Personal-Psychological Relations Because of the similarities between this problem area and number five, the statements relating to number five are applicable to this area also.

7. Morals and Religion When problems arise concerning morals and religion, the church should be primarily responsible for offering guidance. However, this guidance should be given by the church in close cooperation with the parents. Because the church is basically responsible for interpreting religious truth to the people, it therefore should assume the primary role in guidance where questions of morals and religion are involved. The minister and/or assistant pastor should provide active leadership in this problem area and through the catechism classes, Sunday school, youth groups, and other church activities attempt to anticipate and answer the questions of the young people as well as provide help and guidance when it is solicited by the young people or the parents.

8. Home and Family When problems arise within the family and concerning the family, these problems should be settled within the home group. The parents should

be the primary source of help and guidance. Obviously some problems of a more serious nature may occur and a third party would be desirable to give help in solving the problem. At this point the school and church should be ready to provide able assistance. The minister and school counselor must be adept in dealing with these problems. This problem area is one of the low ones in rank of concern as indicated by the students on the Mooney Problem Check List; however, serious problems may develop, especially in a group such as the Christian school society where strict discipline is often used and where there is in some quarters the additional problem of recent Dutch immigrants adjusting to the American culture.

9. Future: Vocational, Educational This area of guidance more than any other one justifies the existence of a counseling program in the schools. The school should have the primary responsibilities for providing help and guidance in this area. The counselor with his specialized knowledge, techniques, and resources should be the primary agent in helping the young people to evaluate their abilities, interests, personality traits, and values and then to select the most suitable vocation.

10. Adjustment to School Work The school again should have the primary responsibility for guidance in the "Adjustment to School Work" problem area. The important sub-area of study skills and habits should be primarily

the responsibility of the classroom teacher. The counselor can aid and abet the program and give help where it is needed. The use of tests to help locate weak areas in a student's academic program (e.g. reading, math) and to uncover and help the underachievers can also be a part of the counselor's work. In this area, as well as all of the others, the parents should be an important source of guidance.

11. Curriculum and Teaching Procedure Help for problems in this area would closely parallel that of problem area ten. The school should be primarily responsible, but should strongly encourage the parents' assistance. Interestingly enough, it has been the writer's experience that the parents (who actually run the school through the parent school societies) often fail to do a good job in this problem area. Reference to the Christian-public school comparisons reveals that the Christian school female students tend to mark a significantly greater number of problems in this area. This could indicate that the schools may not be doing adequate counseling in explaining their curriculum, purposes, and methods to the young people. It may also indicate parental indifference and/or criticism of the schools. The writer's experience indicates that both of these reasons play an important role in the development of problems in this area.

The writer believes that the Christian school guidance Program should center about the vocational-educational guid-

ance area. The counselor should also be concerned with the area of Social-Psychological Relations and Personal-Psychological Relations. One of the important contributions in this area would be to help relate the new discoveries and ideas in the psychological-sociological areas to the "Biblical truths" held by the denomination. Further, the counselors should be able and ready to aid in any other of the guidance areas if in individual cases the agency primarily responsible should fail to perform its function. The strong family structure found within this religious group should be responsible for providing the main source of guidance in most of the problem areas discussed. The close relationship which is found between the home, the church, and the school should be put into proper focus so that each agency handling the areas of primary responsibility would stand ready to supplement the guidance of the other agencies. The great need within this group at present is for a delineating of responsibilities and a clarification of the guidance functions. It is hoped that this study will make a contribution in this direction.

If trained counselors are added to the Christian schools, it is hoped that they will, besides their primary responsibilities, serve to coordinate the guidance functions of the home, church, and the school. With their professional training they can also provide help to the parents (through talks, articles, and in-service programs) and aid the parents in becoming more adept at fulfilling their roles as counselors to their own children.

In closing, the writer would like to briefly summarize some of the implications of this study for the guidance of Christian school students. Based upon the questionnaire returns of the Christian school leader and teacher groups, the study indicates that the parents should bear the primary responsibility for guidance in most problem areas. The school should be involved in the guidance program when problems in the school work area are involved and also when problems of vocational-educational planning are evidenced. The parents and the church should be involved in problems concerning morals and religion. The indications are that the "ideal" guidance sources, as delineated by the adults, are not being utilized as well as they should be by the students. There was no indication that sex, grade level, and size of school were major factors in the determining of the sources of guidance used by the students.

The problems of the students seemed centered about their problems in school and problems involving their social, recreational, and personal-psychological relationships. There were significant differences in problem patterns between Christian school males and females and between Christian school males and public school males. In all cases, the Christian school males marked fewer problems in the areas of significant differences. This may mean that they have fewer problems or that they were more defensive in their answers, and therefore further research should be done in this area before great weight is placed upon these findings. Grade level, sex, size of

school, and type of school (public versus Christian) were factors of little or no significance in determining the problem profiles of the students.

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APPENDIX A

September 26, 1958

Dear Principal

I am at present beginning a doctoral study which has the following endorsement:

"Mr. James Harvey's guidance and counseling study is endorsed by the National Union of Christian Schools because we feel that it has value for Christian education. We hope that you will co-operate with Mr. Harvey in this project."

Cordially

/s/ John A. Vander Ark
Director

The study concerns students in the Christian high schools in Michigan and Illinois. As a part of this study, it is necessary to delineate a group of Christian school leaders.

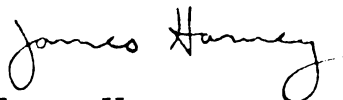
It would be appreciated if you would fill in the blank on the reverse side of this letter. It asks that you list at least twelve people whom you feel are leaders in the Christian Schools affiliated with the National Union in the country today. These may be teachers, lay people, ministers, or college professors as long as you perceive them to be among the top people in the field. They may or may not live in your area.

I am interested in defining this group because a questionnaire has been prepared for them which is a key to the study.

You need not sign your name. Will you please return the blank to me by the 10th of October?

Thank you for your help.

Yours in Christian Education


James Harvey

Please list at least 12 people whom you feel are at present the outstanding leaders in the Christian school movement in the United States. If you can list more, please do so. If you cannot list 12 please list as many as you can. Thank you for your co-operation.

<u>Name of Leader</u>	<u>City, Church, or School With Which Leader is Connected</u>
1. _____	_____
2. _____	_____
3. _____	_____
4. _____	_____
5. _____	_____
6. _____	_____
7. _____	_____
8. _____	_____
9. _____	_____
10. _____	_____
11. _____	_____
12. _____	_____

APPENDIX B

1950
REVISION

MOONEY PROBLEM CHECK LIST

ROSS L. MOONEY

Bureau of Educational Research
Ohio State University



DIRECTIONS

- This is not a test. It is a list of problems which are often troubling students of your age—problems of health, money, social life, home relations, religion, vocation, school work, and the like. Some of these problems are likely to be troubling you and some are not. As you read the list, pick out the problems which are troubling you. There are three steps in what you do.

First Step: Read through the list slowly, and when you come to a problem which suggests something which is troubling you, find the number of the item on the answer sheet and blacken the answer space **BELOW** the number. For example, if you are troubled by the fact that you are underweight (problem number 1 in the list), you would find number 1 on the answer sheet and blacken the answer space **BELOW** the number. Thus,

.....
1	2	3	4	5
.....

Go through the whole list in this way, marking the answer spaces below the numbers of the problems which are troubling you.

Second Step: When you have completed the first step, read again the items you have marked and pick out the ones which you feel are *troubling you most*. Show these problems by blackening the answer space **ABOVE** the number. For example, if, as you look back over all the problems for which there are black marks below the numbers on the answer sheet, you decide that "Being underweight" is one of those which troubles you most, then blacken the answer space **ABOVE** the number, like this,

.....
1	2	3	4	5
.....

This example shows how the sheet would be marked by a student for whom both items 1 and 4 represent problems, with 1 being among his most important problems.

Third Step: When you have completed the second step, answer the summarizing questions on the back of the answer sheet.

Do not make any marks in this booklet. Put all your marks on the answer sheet.

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The Psychological Corporation
522 Fifth Avenue, New York 36, N. Y.

1. Being underweight
2. Being overweight
3. Not getting enough exercise
4. Getting sick too often
5. Tiring very easily
6. Needing to learn how to save money
7. Not knowing how to spend my money wisely
8. Having less money than my friends have
9. Having to ask parents for money
10. Having no regular allowance (or income)
11. Slow in getting acquainted with people
12. Awkward in meeting people
13. Being ill at ease at social affairs
14. Trouble in keeping a conversation going
15. Unsure of my social etiquette
16. Having dates
17. Awkward in making a date
18. Not mixing well with the opposite sex
19. Not being attractive to the opposite sex
20. Not being allowed to have dates
21. Getting into arguments
22. Hurting people's feelings
23. Being talked about
24. Being made fun of
25. Being "different"
26. Losing my temper
27. Taking some things too seriously
28. Being nervous
29. Getting excited too easily
30. Worrying
31. Not going to church often enough
32. Not living up to my ideal
33. Puzzled about the meaning of God
34. Doubting some of the religious things I'm told
35. Confused on some of my religious beliefs
36. Worried about a member of the family
37. Sickness in the family
38. Parents sacrificing too much for me
39. Parents not understanding me
40. Being treated like a child at home
41. Unable to enter desired vocation
42. Doubting the wisdom of my vocational choice
43. Needing to know my vocational abilities
44. Doubting I can get a job in my chosen vocation
45. Wanting advice on what to do after high school
46. Missing too many days of school
47. Being a grade behind in school
48. Adjusting to a new school
49. Taking the wrong subjects
50. Not spending enough time in study
51. Having no suitable place to study at home
52. Family not understanding what I have to do in school
53. Wanting subjects not offered by the school
54. Made to take subjects I don't like
55. Subjects not related to everyday life
56. Frequent headaches
57. Weak eyes
58. Often not hungry for my meals
59. Not eating the right food
60. Gradually losing weight
61. Too few nice clothes
62. Too little money for recreation
63. Family worried about money
64. Having to watch every penny I spend
65. Having to quit school to work
66. Not enough time for recreation
67. Not enjoying many things others enjoy
68. Too little chance to read what I like
69. Too little chance to get out and enjoy nature
70. Wanting more time to myself
71. No suitable places to go on dates
72. Not knowing how to entertain on a date
73. Too few dates
74. Afraid of close contact with the opposite sex
75. Embarrassed by talk about sex
76. Wanting a more pleasing personality
77. Not getting along well with other people
78. Worrying how I impress people
79. Too easily led by other people
80. Lacking leadership ability
81. Daydreaming
82. Being careless
83. Forgetting things
84. Being lazy
85. Not taking some things seriously enough
86. Parents making me go to church
87. Disliking church services
88. Doubting the value of worship and prayer
89. Wanting to feel close to God
90. Affected by racial or religious prejudice
91. Not living with my parents
92. Parents separated or divorced
93. Father or mother not living
94. Not having any fun with mother or dad
95. Feeling I don't really have a home
96. Needing to decide on an occupation
97. Needing to know more about occupations
98. Restless to get out of school and into a job
99. Can't see that school work is doing me any good
100. Want to be on my own
101. Not really interested in books
102. Unable to express myself well in words
103. Vocabulary too limited
104. Trouble with oral reports
105. Afraid to speak up in class discussions
106. Textbooks too hard to understand
107. Teachers too hard to understand
108. So often feel restless in classes
109. Too little freedom in classes
110. Not enough discussion in classes

111. Not as strong and healthy as I should be
112. Not getting enough outdoor air and sunshine
113. Not getting enough sleep
114. Frequent colds
115. Frequent sore throat
116. Wanting to earn some of my own money
117. Wanting to buy more of my own things
118. Needing money for education after high school
119. Needing to find a part-time job now
120. Needing a job during vacations
121. Nothing interesting to do in my spare time
122. Too little chance to go to shows
123. Too little chance to enjoy radio or television
124. Too little chance to pursue a hobby
125. Nothing interesting to do in vacation
126. Disappointed in a love affair
127. Girl friend
128. Boy friend
129. Deciding whether to go steady
130. Wondering if I'll find a suitable mate
131. Slow in making friends
132. Being timid or shy
133. Feelings too easily hurt
134. Getting embarrassed too easily
135. Feeling inferior
136. Moodiness, "having the blues"
137. Trouble making up my mind about things
138. Afraid of making mistakes
139. Too easily discouraged
140. Sometimes wishing I'd never been born
141. Wondering how to tell right from wrong
142. Confused on some moral questions
143. Parents old-fashioned in their ideas
144. Wanting to understand more about the Bible
145. Wondering what becomes of people when they die
146. Being criticized by my parents
147. Parents favoring a brother or sister
148. Mother
149. Father
150. Death in the family
151. Choosing best subjects to take next term
152. Choosing best subjects to prepare for college
153. Choosing best subjects to prepare for a job
154. Getting needed training for a given occupation
155. Wanting to learn a trade
156. Not getting studies done on time
157. Not liking school
158. Not interested in some subjects
159. Can't keep my mind on my studies
160. Don't know how to study effectively
161. Not enough good books in the library
162. Too much work required in some subjects
163. Not allowed to take some subjects I want
164. Not getting along with a teacher
165. School is too strict
166. Poor complexion or skin trouble
167. Poor posture
168. Too short
169. Too tall
170. Not very attractive physically
171. Living too far from school
172. Relatives living with us
173. Not having a room of my own
174. Having no place to entertain friends
175. Having no car in the family
176. Not being allowed to use the family car
177. Not allowed to go around with the people I like
178. So often not allowed to go out at night
179. In too few student activities
180. Too little social life
181. Being in love
182. Loving someone who doesn't love me
183. Deciding whether I'm in love
184. Deciding whether to become engaged
185. Needing advice about marriage
186. Being criticized by others
187. Being called "high-hat" or "stuck-up"
188. Being watched by other people
189. Being left out of things
190. Having feelings of extreme loneliness
191. Afraid to be left alone
192. Too easily moved to tears
193. Failing in so many things I try to do
194. Can't see the value of most things I do
195. Unhappy too much of the time
196. Can't forget some mistakes I've made
197. Bothered by ideas of heaven and hell
198. Afraid God is going to punish me
199. Troubled by the bad things other kids do
200. Being tempted to cheat in classes
201. Being an only child
202. Not getting along with a brother or sister
203. Parents making too many decisions for me
204. Parents not trusting me
205. Wanting more freedom at home
206. Deciding whether or not to go to college
207. Needing to know more about colleges
208. Needing to decide on a particular college
209. Afraid I won't be admitted to a college
210. Afraid I'll never be able to go to college
211. Trouble with mathematics
212. Weak in writing
213. Weak in spelling or grammar
214. Trouble in outlining or note taking
215. Trouble in organizing papers and reports
216. Classes too dull
217. Teachers lacking personality
218. Teachers lacking interest in students
219. Teachers not friendly to students
220. Not getting personal help from the teachers

- | | |
|---|---|
| 221. Trouble with my hearing | 276. Poor teeth |
| 222. Speech handicap (stuttering, etc.) | 277. Nose or sinus trouble |
| 223. Allergies (hay fever, asthma, hives, etc.) | 278. Smoking |
| 224. Glandular disorders (thyroid, lymph, etc.) | 279. Trouble with my feet |
| 225. Menstrual or female disorders | 280. Bothered by a physical handicap |
| 226. Parents working too hard | 281. Borrowing money |
| 227. Not having certain conveniences at home | 282. Working too much outside of school hours |
| 228. Not liking the people in my neighborhood | 283. Working for most of my own expenses |
| 229. Wanting to live in a different neighborhood | 284. Getting low pay for my work |
| 230. Ashamed of the home we live in | 285. Disliking my present job |
| 231. Wanting to learn how to dance | 286. Too little chance to do what I want to do |
| 232. Wanting to learn how to entertain | 287. Too little chance to get into sports |
| 233. Wanting to improve myself culturally | 288. No good place for sports around home |
| 234. Wanting to improve my appearance | 289. Lacking skill in sports and games |
| 235. Too careless with my clothes and belongings | 290. Not using my leisure time well |
| 236. Going with someone my family won't accept | 291. Thinking too much about sex matters |
| 237. Afraid of losing the one I love | 292. Concerned over proper sex behavior |
| 238. Breaking up a love affair | 293. Finding it hard to control sex urges |
| 239. Wondering how far to go with the opposite sex | 294. Worried about sex diseases |
| 240. Wondering if I'll ever get married | 295. Needing information about sex matters |
| 241. Wanting to be more popular | 296. Being too envious or jealous |
| 242. Disliking someone | 297. Speaking or acting without thinking |
| 243. Being disliked by someone | 298. Feeling that nobody understands me |
| 244. Avoiding someone I don't like | 299. Finding it hard to talk about my troubles |
| 245. Sometimes acting childish or immature | 300. No one to tell my troubles to |
| 246. Being stubborn or obstinate | 301. Too many personal problems |
| 247. Tending to exaggerate too much | 302. Having memories of an unhappy childhood |
| 248. Having bad luck | 303. Bothered by bad dreams |
| 249. Not having any fun | 304. Sometimes bothered by thoughts of insanity |
| 250. Lacking self-confidence | 305. Thoughts of suicide |
| 251. Sometimes lying without meaning to | 306. Sometimes not being as honest as I should be |
| 252. Swearing, dirty stories | 307. Getting into trouble |
| 253. Having a certain bad habit | 308. Giving in to temptations |
| 254. Being unable to break a bad habit | 309. Having a troubled or guilty conscience |
| 255. Lacking self-control | 310. Being punished for something I didn't do |
| 256. Clash of opinions between me and my parents | 311. Friends not welcomed at home |
| 257. Talking back to my parents | 312. Family quarrels |
| 258. Parents expecting too much of me | 313. Unable to discuss certain problems at home |
| 259. Wanting love and affection | 314. Wanting to leave home |
| 260. Wishing I had a different family background | 315. Not telling parents everything |
| 261. Lacking training for a job | 316. Not knowing what I really want |
| 262. Lacking work experience | 317. Needing to plan ahead for the future |
| 263. Afraid of unemployment after graduation | 318. Family opposing some of my plans |
| 264. Doubting ability to handle a good job | 319. Afraid of the future |
| 265. Don't know how to look for a job | 320. Concerned about military service |
| 266. Don't like to study | 321. Getting low grades |
| 267. Poor memory | 322. Just can't get some subjects |
| 268. Slow in reading | 323. Not smart enough |
| 269. Worrying about grades | 324. Afraid of failing in school work |
| 270. Worrying about examinations | 325. Wanting to quit school |
| 271. Teachers not considerate of students' feelings | 326. School activities poorly organized |
| 272. Teachers not practicing what they preach | 327. Students not given enough responsibility |
| 273. Too many poor teachers | 328. Not enough school spirit |
| 274. Grades unfair as measures of ability | 329. Lunch hour too short |
| 275. Unfair tests | 330. Poor assemblies |

Second Step: Read again the items you have marked and blacken the spaces on the answer sheet ABOVE the numbers of the problems which are troubling you most.

Third Step: Answer the questions on the back of the answer sheet.

NAME _____

SCHOOL _____

CLASS OR GRADE IN SCHOOL _____

AGE _____

BOY _____ GIRL _____

DATE _____

HIGH SCHOOL FORM

MOONEY PROBLEM CHECK LIST

The DIRECTIONS for Steps 1, 2 and 3 are given on the cover of the booklet. Be sure your marks are heavy and black. Erase completely any mark you wish to remove.

Page 2 Col. 1					Page 2 Col. 2					Page 3 Col. 1					Page 3 Col. 2					Page 4 Col. 1					Page 4 Col. 2																																																																																																																																																																																																																																																									
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Third Step: Answer the following four questions.

QUESTIONS

1. Do you feel that the items you have marked on the list give a well-rounded picture of your problems? ____ Yes. ____ No.
Add anything further you may care to say to make the picture more complete.

2. How would you summarize your chief problems in your own words? Write a brief summary.

3. Would you like to have more chances in school to write out, think about, and discuss matters of personal concern to you?
____ Yes. ____ No.

Please explain how you feel on this question.

4. If you had the chance, would you like to talk to someone about some of the problems you have marked on the list?
____ Yes. ____ No. If so, do you have any particular person(s) in mind with whom you would like to talk?
____ Yes. ____ No.

APPENDIX C

Sources of Guidance Questionnaire-Student Form

Instructions

Purpose of Questionnaire

Yours is a period of life in which many important problems must be faced. This questionnaire is an attempt to better understand where you get help in solving these problems.

Description of Questionnaire

There are two parts to this questionnaire. On the half-sheet (which is page 2) and directly beneath it on the left hand side of page 3 you will find eleven different problem areas listed. On the right hand side of page 3 you will find listed a number of possible sources of information which might be used for getting help and guidance to solve the problems in the eleven problem areas.

Procedure

1. Fill in on the top of page 2 the information requested as to your grade, sex, and school.
2. Read problem area number 1. If you have had a problem in this area, think of the sources of information and guidance which you have used. (Even if you haven't had a problem in this area, determine where you would go at the present time for help if you did have such a problem). Next, refer to the sources listed on the right hand side of page 3. If you find there the source or sources of information you have or would use, place the number of the most important source in the blank marked 1st__ under the problem area. If you have used more than one source, place these other source numbers in the order of importance by the blanks 2nd, 3rd, 4th, and 5th. You need not list five but you may do so if you prefer.
3. If a source of information which you have used is not listed on page 3, you may add this source by writing it in the spaces (Numbers 10 through 13) left for this purpose on page 3. Write in the source and write the number by it in the correct space under the problem area.
4. Continue until you have done the above for all eleven problem areas.

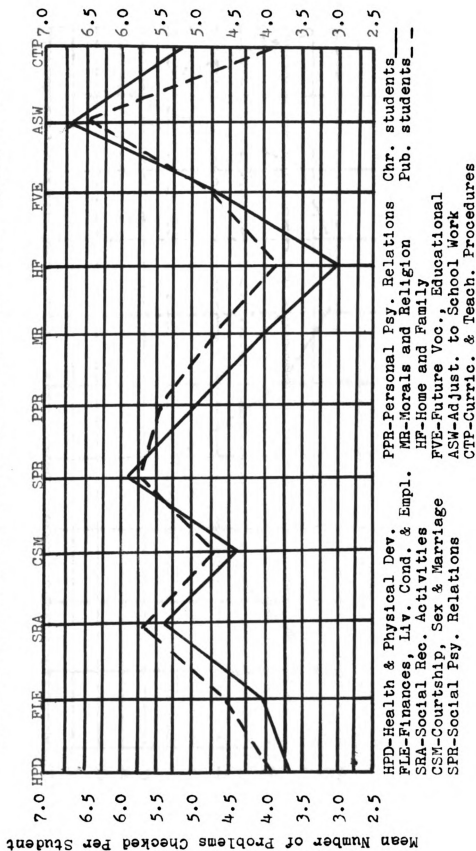
Example: Sources used for problems of HEALTH AND BODY DEVELOPMENT (such as problems concerning your weight, bad health, physical handicaps, appearance, lack of sleep, eating, and similar problems).

1st. 3 2nd. 4 3rd. 8 4th. ____ 5th. ____

The marking of the example indicates that when this person had a problem in the area of Health and Physical Development, he got his most important help and guidance from his parents. (No. 3 placed by first). The next most important source of help indicated is his friends (No. 4 placed by second) and the final most important source indicated is the reading of books or magazines containing information on health and physical development (No. 8 placed by third). By not filling in the 4th and 5th choices, the person has indicated that he would use or has used only the three sources he has listed.

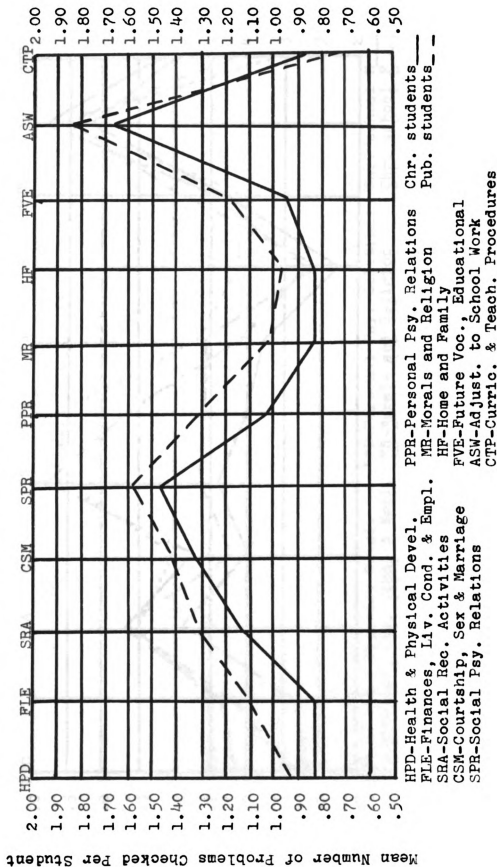
GRAPH I

PUBLIC AND CHRISTIAN SCHOOL STUDENT RESPONSES ON "MOONEY"-TOTAL PROBLEMS



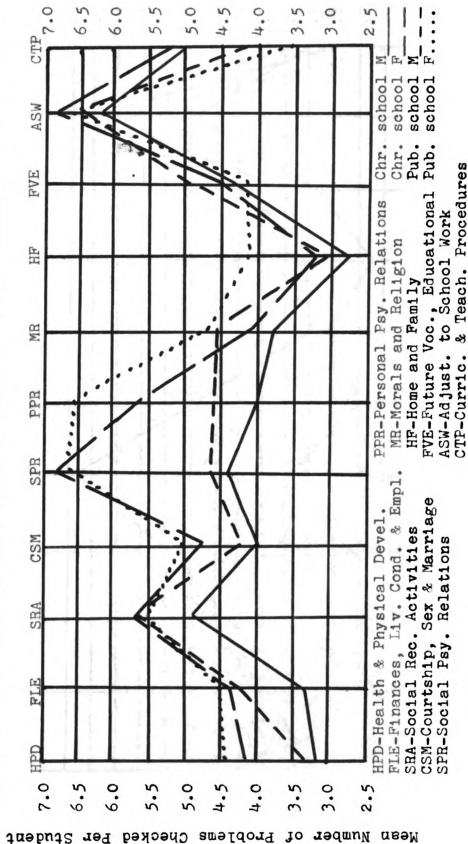
GRAPH II

PUBLIC AND CHRISTIAN SCHOOL STUDENT RESPONSES ON "MOONEY"-SERIOUS PROBLEMS



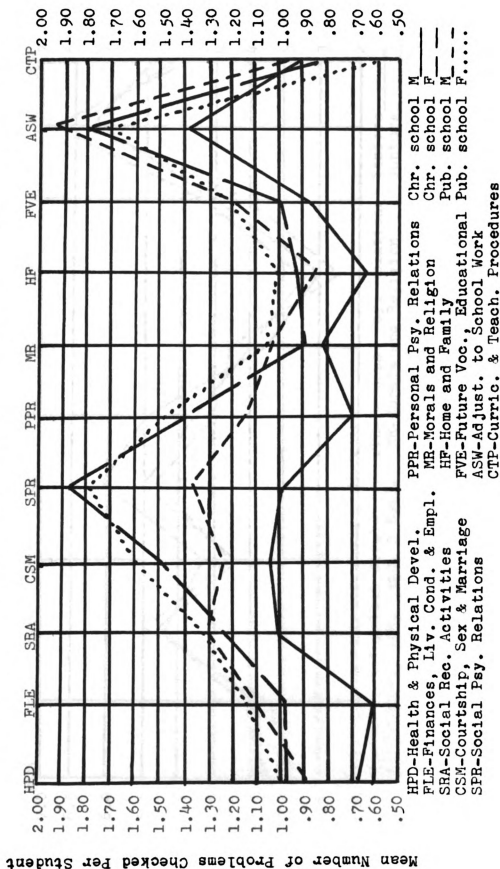
GRAPH III

PUBLIC AND CHRISTIAN SCHOOL STUDENT RESPONSES ON "MOONEY"-TOTAL PROBLEMS BY SEXES



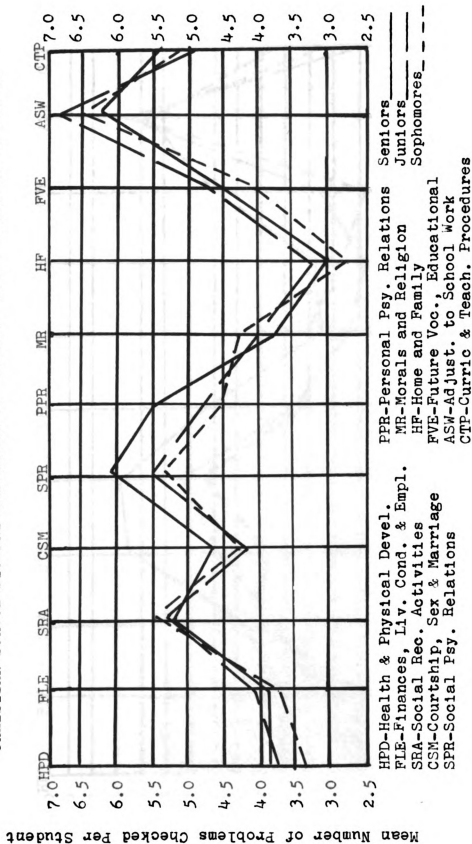
GRAPH IV

PUBLIC AND CHRISTIAN SCHOOL STUDENT RESPONSES ON "MOONEY"-SERIOUS PROBLEMS BY SEXES



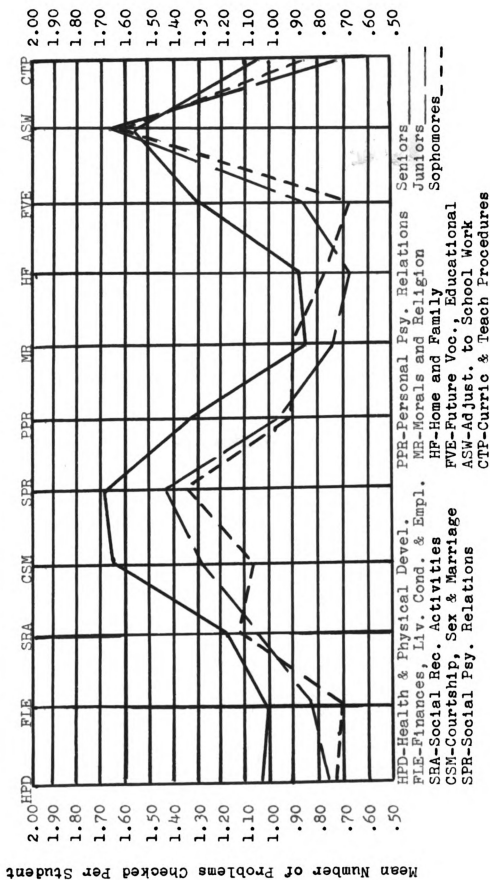
GRAPH V

CHRISTIAN SCHOOL STUDENT RESPONSES ON "MOONEY"-TOTAL PROBLEMS BY GRADES



GRAPH VI

CHRISTIAN SCHOOL STUDENT RESPONSES ON "MOONEY"-SERIOUS PROBLEMS BY GRADES



APPENDIX E

MEDIAN TESTS -- MOONEY DATA

Chr. Sch. Females vs. Pub. Sch. Females
223 127

Number of Individuals Marking Serious Problems

1. HPD

	Chr	Pub		
Fewer	a	b		
1	173	93	266	.062
More	c	d		
	50	34	84	
	223	127	N=350	

2. FLE

	Chr	Pub		
Fewer	a	b		
0	129	65	194	1.19
More	c	d		
	94	62	156	
	223	127	N=350	

3. SRA

	Chr	Pub		
Fewer	a	b		
2	160	86	246	.452
More	c	d		
	63	41	104	
	223	127	N=350	

4. CSM

	Chr	Pub		
Fewer	a	b		
1	147	77	224	.766
More	c	d		
	76	50	126	
	223	127	N=350	

5. SPR

	Chr	Pub		
Fewer	a	b		
1	131	70	201	.299
More	c	d		
	92	57	149	
	223	127	N=350	

6. PFR

	Chr	Pub		
Fewer	a	b		
1	153	74	227	3.53
More	c	d		
	70	53	123	
	223	127	N=350	

7. MR

	Chr	Pub		
Fewer	a	b		
0	124	70	194	.000
More	c	d		
	99	57	156	
	223	127	N=350	

8. HF

	Chr	Pub		
Fewer	a	b		
0	133	76	209	.006
More	c	d		
	90	51	141	
	223	127	N=350	

9. FVE

	Chr	Pub		
Fewer	a	b		
0	133	63	196	2.91
More	c	d		
	90	64	154	
	223	127	N=350	

10. ASW

	Chr	Pub		
Fewer	a	b		
1	138	77	215	.014
More	c	d		
	85	50	135	
	223	127	N=350	

11. CTP

	Chr	Pub		
Fewer	a	b		
0	141	88	229	.106
More	c	d		
	82	39	121	
	223	127	N=350	

Formula Used:

$$X^2 = \frac{(ad-bc | -\frac{1}{2}N)^2 N}{(a+b)(a+c)(b+d)(c+d)}$$

the number appearing in the middle of the table is the median for that test.

MEDIAN TESTS -- MOONEY DATA

Chr. Sch. Females vs. Pub. Sch. Females
 223 127
 Number of Individuals Marking Total Problems

1. HPD

	Chr	Pub		
Fewer	a	b		
4	132	69	201	.596
	c	d		
More	91	58	149	
	223	127	N=	350

7. MR

	Chr	Pub		
Fewer	a	b		
4	142	72	214	1.38
	c	d		
More	81	55	136	
	223	127	N=	350

2. FLE

	Chr	Pub		
Fewer	a	b		
4	125	80	205	1.33
	c	d		
More	98	47	145	
	223	127	N=	350

8. HF

	Chr	Pub		
Fewer	a	b		
3	137	71	208	.816
	c	d		
More	86	56	142	
	223	127	N=	350

3. SRA

	Chr	Pub		
Fewer	a	b		
5	115	71	186	.449
	c	d		
More	108	56	164	
	223	127	N=	350

9. FVE

	Chr	Pub		
Fewer	a	b		
4	129	72	201	.009
	c	d		
More	94	55	149	
	223	127	N=	350

4. GSM

	Chr	Pub		
Fewer	a	b		
4	117	64	181	.068
	c	d		
More	106	63	169	
	223	127	N=	350

10. ASW

	Chr	Pub		
Fewer	a	b		
6	125	74	199	.084
	c	d		
More	98	53	151	
	223	127	N=	350

5. SPR

	Chr	Pub		
Fewer	a	b		
6	120	74	194	.482
	c	d		
More	103	53	156	
	223	127	N=	350

11. CTP

	Chr	Pub		
Fewer	a	b		
3	98	77	175	8.35*
	c	d		
More	125	50	175	
	223	127	N=	350

Formula Used:

$$X^2 = \frac{((ad-bc) - \frac{1}{2}N)^2}{N(a+b)(a+c)(b+d)(c+d)}$$

6. PPR

	Chr	Pub		
Fewer	a	b		
5	123	61	184	1.37
	c	d		
More	100	66	166	
	223	127	N=	350

The number appearing in the middle of the table is the median for that test.

MEDIAN TESTS -- MOONEY DATA

Chr. School Males vs. Pub. School Males
188 145

Number of Individuals Marking Serious Problems

1. HPD

	Chr	Pub		
Fewer	a	b		
0	114	85	199	.067
More	c	d		
	74	60	134	
	188	145	N=	333

7. MR

	Chr	Pub		
Fewer	a	b		
0	111	85	196	.001
More	c	d		
	77	60	137	
	188	145	N=	333

2. FLE

	Chr	Pub		
Fewer	a	b		
0	125	77	202	5.60*
More	c	d		
	63	68	131	
	188	145	N=	333

8. HF

	Chr	Pub		
Fewer	a	b		
0	137	97	234	1.13
More	c	d		
	51	48	99	
	188	145	N=	333

3. SRA

	Chr	Pub		
Fewer	a	b		
0	106	67	173	3.00
More	c	d		
	82	78	160	
	188	145	N=	333

9. FVE

	Chr	Pub		
Fewer	a	b		
0	119	75	194	4.05*
More	c	d		
	69	70	139	
	188	145	N=	333

4. CSM

	Chr	Pub		
Fewer	a	b		
0	108	80	188	.092
More	c	d		
	80	65	145	
	188	145	N=	333

10. ASW

	Chr	Pub		
Fewer	a	b		
1	126	84	210	2.53
More	c	d		
	62	61	123	
	188	145	N=	333

5. SPR

	Chr	Pub		
Fewer	a	b		
0	105	76	181	.264
More	c	d		
	83	69	152	
	188	145	N=	333

11. CTP

	Chr	Pub		
Fewer	a	b		
0	122	93	215	.001
More	c	d		
	66	52	118	
	188	145	N=	333

Formula Used:

$$\chi^2 = \frac{((ad-bc) - \frac{1}{2}N)^2}{(a+b)(a+c)(b+d)(c+d)}$$

6. PPR

	Chr	Pub		
Fewer	a	b		
0	122	72	194	7.20**
More	c	d		
	66	73	139	
	188	145	N=	333

the number appearing in the middle of the table is the median for that test.

MEDIAN TESTS -- MOONEY DATA

Chr. School Males vs. Pub. School Males
188 145

Number of Individuals Marking Total Problems

1. HPD

	Chr	Pub		
Fewer	a	b		
3	114	80	194	.794
More	c	d		
	74	65	139	
	188	145	N=	333

7. MR

	Chr	Pub		
Fewer	a	b		
4	116	71	187	4.89*
More	c	d		
	72	74	146	
	188	145	N=	333

2. FLE

	Chr	Pub		
Fewer	a	b		
3	116	67	183	7.33*
More	c	d		
	72	78	150	
	188	145	N=	333

8. HF

	Chr	Pub		
Fewer	a	b		
2	114	78	192	1.30
More	c	d		
	74	67	141	
	188	145	N=	333

3. SRA

	Chr	Pub		
Fewer	a	b		
5	113	83	196	.172
More	c	d		
	75	62	137	
	188	145	N=	333

9. FVE

	Chr	Pub		
Fewer	a	b		
4	103	72	175	.672
More	c	d		
	85	73	158	
	188	145	N=	333

4. CSM

	Chr	Pub		
Fewer	a	b		
4	116	87	203	.041
More	c	d		
	72	58	130	
	188	145	N=	333

10. ASW

	Chr	Pub		
Fewer	a	b		
6	106	74	180	.74
More	c	d		
	82	71	153	
	188	145	N=	333

5. SPR

	Chr	Pub		
Fewer	a	b		
5	109	81	190	.076
More	c	d		
	79	64	143	
	188	145	N=	333

11. CTP

	Chr	Pub		
Fewer	a	b		
4	103	88	191	.937
More	c	d		
	85	57	142	
	188	145	N=	333

Formula Used:

$$\chi^2 = \frac{(ad - bc - \frac{1}{2}N)^2}{(a+b)(a+c)(b+d)(c+d)}$$

6. PPR

	Chr	Pub		
Fewer	a	b		
4	115	85	200	.129
More	c	d		
	73	60	133	
	188	145	N=	333

number appearing in the middle of the table is the median for that test.

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MEDIAN TESTS -- MOONEY DATA

Female Seniors vs. Female Sophs.

61 80

Number of Individuals Marking Serious Problems

1. HPD

	Sen	Soph		
Fewer	a	b		
0	26	44	70	1.65
More	c	d		
More	35	36	71	
	61	80	N=141	

7. MR

	Sen	Soph		
Fewer	a	b		
0	31	43	74	.031
More	c	d		
More	30	37	67	
	61	80	N=141	

2. FLE

	Sen	Soph		
Fewer	a	b		
0	32	49	81	.722
More	c	d		
More	29	31	60	
	61	80	N=141	

8. HF

	Sen	Soph		
Fewer	a	b		
0	37	49	86	.011
More	c	d		
More	24	31	55	
	61	80	N=141	

3. SRA

	Sen	Soph		
Fewer	a	b		
1	42	58	100	.081
More	c	d		
More	19	22	41	
	61	80	N=141	

9. FVE

	Sen	Soph		
Fewer	a	b		
0	31	48	79	.841
More	c	d		
More	30	32	62	
	61	80	N=141	

4. CSM

	Sen	Soph		
Fewer	a	b		
1	36	59	95	2.78
More	c	d		
More	25	21	46	
	61	80	N=141	

10. ASW

	Sen	Soph		
Fewer	a	b		
1	42	48	90	.823
More	c	d		
More	19	32	51	
	61	80	N=141	

5. SPR

	Sen	Soph		
Fewer	a	b		
1	32	49	81	.722
More	c	d		
More	29	31	60	
	61	80	N=141	

11. CTP

	Sen	Soph		
Fewer	a	b		
0	40	50	90	.039
More	c	d		
More	21	30	51	
	61	80	N=141	

Formula Used:

$$X^2 = \frac{(ad - bc - \frac{1}{2}N)^2}{(a+b)(a+c)(b+d)(c+d)}$$

the number appearing in the middle of the table is the median for that test.

THE HISTORY OF THE CITY OF BOSTON FROM 1630 TO 1800

1630

1631

• The first settlement of Boston was made in 1630 by a group of Puritan settlers from England. They were led by John Winthrop, who gave the settlement the name of Boston.

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MEDIAN TESTS -- MOONEY DATA

Female Seniors vs. Female Sophs.
61 80

Number of Individuals Marking Total Problems

1. HPD

	Sen	Soph		
Fewer	a	b		
3	30	43	73	.130
More	c	d		
	31	37	68	
	61	80	N=141	

7. MR

	Sen	Soph		
Fewer	a	b		
4	41	45	86	1.32
More	c	d		
	20	35	55	
	61	80	N=141	

2. FLE

	Sen	Soph		
Fewer	a	b		
3	34	36	70	1.19
More	c	d		
	27	44	71	
	61	80	N=141	

8. HF

	Sen	Soph		
Fewer	a	b		
2	32	44	76	.017
More	c	d		
	29	36	65	
	61	80	N=141	

3. SRA

	Sen	Soph		
Fewer	a	b		
5	36	39	75	1.08
More	c	d		
	25	41	66	
	61	80	N=141	

9. FVE

	Sen	Soph		
Fewer	a	b		
4	35	45	80	.001
More	c	d		
	26	35	61	
	61	80	N=141	

4. CSM

	Sen	Soph		
Fewer	a	b		
4	30	42	72	.049
More	c	d		
	31	38	69	
	61	80	N=141	

10. ASW

	Sen	Soph		
Fewer	a	b		
6	37	47	84	.003
More	c	d		
	24	33	57	
	61	80	N=141	

5. SPR

	Sen	Soph		
Fewer	a	b		
6	31	46	77	.009
More	c	d		
	30	34	64	
	61	80	N=141	

11. CTP

	Sen	Soph		
Fewer	a	b		
4	33	41	74	.027
More	c	d		
	28	39	67	
	61	80	N=141	

Formula Used:

$$X^2 = \frac{(ad - bc)^2}{(a+b)(a+c)(b+d)(c+d)} \cdot \frac{1}{N}$$

6. PPR

	Sen	Soph		
Fewer	a	b		
5	32	44	76	.017
More	c	d		
	29	36	65	
	61	80	N=141	

1907

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MEDIAN TESTS -- MOONEY DATA

Male Seniors vs. Male Sophomores
 52 72
 Number of Individuals Marking Serious Problems

1. HPD

	Sen	Soph		
Fewer	31 ^a	41 ^b	72	.013
More	21 ^c	31 ^d	52	
	52	72	N=124	

2. FLE

	Sen	Soph		
Fewer	35 ^a	48 ^b	83	.014
More	17 ^c	24 ^d	41	
	52	72	N=124	

3. SRA

	Sen	Soph		
Fewer	33 ^a	36 ^b	69	1.70
More	19 ^c	36 ^d	55	
	52	72	N=124	

4. CSM

	Sen	Soph		
Fewer	27 ^a	46 ^b	73	1.33
More	25 ^c	26 ^d	51	
	52	72	N=124	

5. SPR

	Sen	Soph		
Fewer	30 ^a	41 ^b	71	.010
More	22 ^c	31 ^d	53	
	52	72	N=124	

6. PPR

	Sen	Soph		
Fewer	25 ^a	48 ^b	73	3.58
More	27 ^c	24 ^d	51	
	52	72	N=124	

7. MR

	Sen	Soph		
Fewer	26 ^a	41 ^b	67	.339
More	26 ^c	31 ^d	57	
	52	72	N=124	

8. HF

	Sen	Soph		
Fewer	35 ^a	51 ^b	86	.049
More	17 ^c	21 ^d	38	
	52	72	N=124	

9. FVE

	Sen	Soph		
Fewer	30 ^a	50 ^b	80	1.34
More	22 ^c	22 ^d	44	
	52	72	N=124	

10. ASW

	Sen	Soph		
Fewer	40 ^a	45 ^b	85	2.28
More	12 ^c	27 ^d	39	
	52	72	N=124	

11. CTP

	Sen	Soph		
Fewer	31 ^a	47 ^b	78	.207
More	21 ^c	25 ^d	46	
	52	72	N=124	

Formula Used:

$$X^2 = \frac{(ad - bc - \frac{1}{2}N)^2}{(a+b)(a+c)(b+d)(c+d)}$$

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MEDIAN TESTS -- MOONEY DATA

Male Seniors vs. Male Sophomores
 52 72
 Number of Individuals Marking Total Problems

1. HPD

	Sen	Soph		
Fewer	a	b		
3	26	46	72	1.86
More	c	d		
	26	26	52	
	52	72	N=124	

7. MR

	Sen	Soph		
Fewer	a	b		
4	27	44	71	.699
More	c	d		
	25	28	53	
	52	72	N=124	

2. FLE

	Sen	Soph		
Fewer	a	b		
3	27	48	75	2.16
More	c	d		
	25	24	49	
	52	72	N=124	

8. HF

	Sen	Soph		
Fewer	a	b		
2	30	43	73	.002
More	c	d		
	22	29	51	
	52	72	N=124	

3. SRA

	Sen	Soph		
Fewer	a	b		
4	27	37	64	.015
More	c	d		
	25	35	60	
	52	72	N=124	

9. FVE

	Sen	Soph		
Fewer	a	b		
4	28	43	71	.403
More	c	d		
	24	29	53	
	52	72	N=124	

4. CSM

	Sen	Soph		
Fewer	a	b		
4	28	46	74	.88
More	c	d		
	24	26	50	
	52	72	N=124	

10. ASW

	Sen	Soph		
Fewer	a	b		
6	28	42	70	.098
More	c	d		
	24	30	54	
	52	72	N=124	

5. SPR

	Sen	Soph		
Fewer	a	b		
4	26	43	69	.795
More	c	d		
	26	29	55	
	52	72	N=124	

11. CTP

	Sen	Soph		
Fewer	a	b		
4	24	41	65	1.41
More	c	d		
	28	31	59	
	52	72	N=124	

Formula Used:

$$\chi^2 = \frac{(ad - bc - \frac{1}{2}N)^2 N}{(a+b)(a+c)(b+d)(c+d)}$$

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MEDIAN TESTS -- MOONEY DATA

Chr. School Males vs. Chr. School Females

188

223

Number of Individuals Marking Serious Problems

1. HPD

	M	F		
Fewer	a	b		
0	114	108	222	4.82*
More	c	d		
	74	115	189	
	188	223	N=	411

2. FLE

	M	F		
Fewer	a	b		
0	125	129	254	2.87
More	c	d		
	63	94	157	
	188	223	N=	411

3. SRA

	M	F		
Fewer	a	b		
0	106	102	208	4.21*
More	c	d		
	82	121	203	
	188	223	N=	411

4. CSM

	M	F		
Fewer	a	b		
1	143	147	290	4.58*
More	c	d		
	45	76	121	
	188	223	N=	411

5. SPR

	M	F		
Fewer	a	b		
1	146	131	277	15.76*
More	c	d		
	42	92	134	
	188	223	N=	411

6. PFR

	M	F		
Fewer	a	b		
0	122	102	224	14.33*
More	c	d		
	66	121	187	
	188	223	N=	411

7. MR

	M	F		
Fewer	a	b		
0	111	124	235	.362
More	c	d		
	77	99	176	
	188	223	N=	411

8. HF

	M	F		
Fewer	a	b		
0	137	133	270	7.35*
More	c	d		
	51	90	141	
	188	223	N=	411

9. FVE

	M	F		
Fewer	a	b		
0	119	133	252	.431
More	c	d		
	69	90	159	
	188	223	N=	411

10. ASW

	M	F		
Fewer	a	b		
1	126	138	264	.959
More	c	d		
	62	85	147	
	188	223	N=	411

11. CTP

	M	F		
Fewer	a	b		
0	122	141	263	.061
More	c	d		
	66	82	148	
	188	223	N=	411

Formula Used:

$$\chi^2 = \frac{(ad-bc) - \frac{1}{2}N)^2}{(a+b)(a+c)(b+d)(c+d)}$$

* The number appearing in the middle of the table is the median for that test.

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The first is the same as the first, and the second is the same as the first.

The first is the same as the first, and the second is the same as the first.

The first is the same as the first, and the second is the same as the first.

MEDIAN TESTS -- MOONEY DATA

Chr. School Males vs. Chr. School Females
 188 223
 Number of Individuals Marking Total Problems

1. HPD

	M	F		
Fewer	a	b		
3	114	123	237	1.04
More	c	d		
	74	100	174	
	188	223	N=411	

7. MR

	M	F		
Fewer	a	b		
4	116	142	258	.096
More	c	d		
	72	81	153	
	188	223	N=411	

2. FLE

	M	F		
Fewer	a	b		
3	116	119	235	2.57
More	c	d		
	72	104	176	
	188	223	N=411	

8. HF

	M	F		
Fewer	a	b		
2	114	113	227	3.70
More	c	d		
	74	110	184	
	188	223	N=411	

3. SRA

	M	F		
Fewer	a	b		
5	113	115	228	2.67
More	c	d		
	75	108	183	
	188	223	N=411	

9. FVE

	M	F		
Fewer	a	b		
4	103	129	232	.274
More	c	d		
	85	94	179	
	188	223	N=411	

4. CSM

	M	F		
Fewer	a	b		
4	116	117	233	3.18
More	c	d		
	72	106	178	
	188	223	N=411	

10. ASW

	M	F		
Fewer	a	b		
6	106	124	230	.003
More	c	d		
	82	99	181	
	188	223	N=411	

5. SPR

	M	F		
Fewer	a	b		
5	125	90	215	26.88*
More	c	d		
	63	133	196	
	188	223	N=411	

11. CTP

	M	F		
Fewer	a	b		
4	103	115	218	.305
More	c	d		
	85	108	193	
	188	223	N=411	

Formula Used:

$$X^2 = \frac{(ad - bc)^2}{N(a+b)(a+c)(b+d)(c+d)}$$

6. PFR

	M	F		
Fewer	a	b		
4	115	98	213	1.14
More	c	d		
	73	125	198	
	188	223	N=411	

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MEDIAN TESTS -- MOONEY DATA

Female Sophs. A vs. Female Sophs. C-D
29 22

Number of Individuals Marking Serious Problems

1. HPD

	A	C-D		
Fewer	a	b		
0	20	9	29	2.95
More	c	d		
	9	13	22	
	29	22	N=51	

7. MR

	A	C-D		
Fewer	a	b		
0	13	13	26	.527
More	c	d		
	16	9	25	
	29	22	N=51	

2. FLE

	A	C-D		
Fewer	a	b		
0	19	13	32	.032
More	c	d		
	10	9	19	
	29	22	N=51	

8. HF

	A	C-D		
Fewer	a	b		
0	19	14	33	.025
More	c	d		
	10	8	18	
	29	22	N=51	

3. SRA

	A	C-D		
Fewer	a	b		
0	17	11	28	.108
More	c	d		
	12	11	23	
	29	22	N=51	

9. FVE

	A	C-D		
Fewer	a	b		
0	18	12	30	.064
More	c	d		
	11	10	21	
	29	22	N=51	

4. CSM

	A	C-D		
Fewer	a	b		
0	17	10	27	.422
More	c	d		
	12	12	24	
	29	22	N=51	

10. ASW

	A	C-D		
Fewer	a	b		
1	16	15	31	.426
More	c	d		
	13	7	20	
	29	22	N=51	

5. SPR

	A	C-D		
Fewer	a	b		
1	18	13	31	.005
More	c	d		
	11	9	20	
	29	22	N=51	

11. CTP

	A	C-D		
Fewer	a	b		
0	20	12	32	.581
More	c	d		
	9	10	19	
	29	22	N=51	

Formula Used:

$$X^2 = \frac{(ad-bc - \frac{1}{2}N)^2}{(a+b)(a+c)(b+d)(c+d)}$$

6. PFR

	A	C-D		
Fewer	a	b		
1	24	12	36	3.53
More	c	d		
	5	10	15	
	29	22	N=51	

* The number appearing in the middle of the table is the median for that test.

MEDIAN TESTS -- MOONEY DATA

Female Sophs. A vs. Female Sophs. C-D

29

22

Number of Individuals Marking Total Problems

1. HPD

	A	C-D		
Fewer	a	b		
3	19	9	28	2.15
More	c	d		
	10	13	23	
	29	22	N=51	

7. MR

	A	C-D		
Fewer	a	b		
4	15	11	26	.026
More	c	d		
	14	11	25	
	29	22	N=51	

2. FLE

	A	C-D		
Fewer	a	b		
4	17	13	30	.064
More	c	d		
	12	9	21	
	29	22	N=51	

8. HF

	A	C-D		
Fewer	a	b		
2	17	12	29	.000
More	c	d		
	12	10	22	
	29	22	N=51	

3. SRA

	A	C-D		
Fewer	a	b		
6	18	13	31	.005
More	c	d		
	11	9	20	
	29	22	N=51	

9. FVE

	A	C-D		
Fewer	a	b		
4	16	11	27	.007
More	c	d		
	13	11	24	
	29	22	N=51	

4. GSW

	A	C-D		
Fewer	a	b		
4	16	10	26	.164
More	c	d		
	13	12	25	
	29	22	N=51	

10. ASW

	A	C-D		
Fewer	a	b		
6	17	13	30	.064
More	c	d		
	12	9	21	
	29	22	N=51	

5. SPR

	A	C-D		
Fewer	a	b		
6	18	8	26	.236
More	c	d		
	11	14	25	
	29	22	N=51	

11. CTP

	A	C-D		
Fewer	a	b		
3	18	7	25	.406
More	c	d		
	11	15	26	
	29	22	N=51	

Formula Used:

$$X^2 = \frac{(ad - bc)^2}{\frac{1}{2}N} \frac{N}{(a+b)(a+c)(b+d)(c+d)}$$

6. PPR

	A	C-D		
Fewer	a	b		
5	17	12	29	.000
More	c	d		
	12	10	22	
	29	22	N=51	

* The number appearing in the middle of the table is the median for that test.

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MEDIAN TESTS -- MOONEY DATA

Male Sophs. A vs. Male Sophs. C-D

25

22

Number of Individuals Marking Serious Problems

1. HPD

	A	C-D		
Fewer	11 ^a	15 ^b	26	1.88
0				
More	14 ^c	7 ^d	21	
	25	22	N=47	

2. FLE

	A	C-D		
Fewer	18 ^a	13 ^b	31	.389
0				
More	7 ^c	9 ^d	16	
	25	22	N=47	

3. SRA

	A	C-D		
Fewer	15 ^a	13 ^b	28	.054
1				
More	10 ^c	9 ^d	19	
	25	22	N=47	

4. CSM

	A	C-D		
Fewer	14 ^a	15 ^b	29	.309
0				
More	11 ^c	7 ^d	18	
	25	22	N=47	

5. SPR

	A	C-D		
Fewer	15 ^a	13 ^b	28	.054
0				
More	10 ^c	9 ^d	19	
	25	22	N=47	

6. PPR

	A	C-D		
Fewer	14 ^a	18 ^b	32	2.50
0				
More	11 ^c	4 ^d	15	
	25	22	N=47	

7. MR

	A	C-D		
Fewer	13 ^a	15 ^b	28	.689
0				
More	12 ^c	7 ^d	19	
	25	22	N=47	

8. HF

	A	C-D		
Fewer	15 ^a	17 ^b	32	.910
0				
More	10 ^c	5 ^d	15	
	25	22	N=47	

9. FVE

	A	C-D		
Fewer	16 ^a	14 ^b	30	.077
0				
More	9 ^c	8 ^d	17	
	25	22	N=47	

10. ASW

	A	C-D		
Fewer	11 ^a	14 ^b	25	1.11
0				
More	14 ^c	8 ^d	22	
	25	22	N=47	

11. CTP

	A	C-D		
Fewer	14 ^a	14 ^b	28	.054
0				
More	11 ^c	8 ^d	19	
	25	22	N=47	

Formula Used:

$$X^2 = \frac{(ad-bc - \frac{1}{2}N)^2 N}{(a+b)(a+c)(b+d)(c+d)}$$

* The number appearing in the middle of the table is the median for that test.

MEDIAN TESTS -- MOONEY DATA

Male Sophs. A vs. Male Sophs. C-D
25 22

Number of Individuals Marking Total Problems

1. HPD

	A	C-D		
Fewer	a	b		
3	15	15	30	.077
More	c	d		
	10	7	17	
	25	22	N=47	

2. FLE

	A	C-D		
Fewer	a	b		
2	16	12	28	.130
More	c	d		
	9	10	19	
	25	22	N=47	

3. SRA

	A	C-D		
Fewer	a	b		
4	12	13	25	.218
More	c	d		
	13	9	22	
	25	22	N=47	

4. CSM

	A	C-D		
Fewer	a	b		
3	10	15	25	2.69
More	c	d		
	15	7	22	
	25	22	N=47	

5. SPR

	A	C-D		
Fewer	a	b		
4	13	15	28	.732
More	c	d		
	12	7	19	
	25	22	N=47	

6. PPR

	A	C-D		
Fewer	a	b		
3	13	16	29	1.34
More	c	d		
	12	6	18	
	25	22	N=47	

7. MR

	A	C-D		
Fewer	a	b		
4	17	15	32	.090
More	c	d		
	8	7	15	
	25	22	N=47	

8. HF

	A	C-D		
Fewer	a	b		
2	14	14	28	.068
More	c	d		
	11	8	19	
	25	22	N=47	

9. FVE

	A	C-D		
Fewer	a	b		
4	14	11	25	.014
More	c	d		
	11	11	22	
	25	22	N=47	

10. ASW

	A	C-D		
Fewer	a	b		
5	12	14	26	.611
More	c	d		
	13	8	21	
	25	22	N=47	

11. CTP

	A	C-D		
Fewer	a	b		
3	14	12	26	.038
More	c	d		
	11	10	21	
	25	22	N=47	

Formula Used:

$$X^2 = \frac{(ad - bc - \frac{1}{2}N)^2}{(a+b)(a+c)(b+d)(c+d)}$$

THE HISTORY OF THE UNITED STATES

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MEDIAN TESTS -- MOONEY DATA

Female Seniors A vs. Female Seniors C-D
20 21

Number of Individuals Marking Serious Problems

1. HPD

	A	C-D		
Fewer	a	b		
1	17	15	32	.451
More	c	d	9	
	3	6		
	20	21	N=41	

7. MR

	A	C-D		
Fewer	a	b		
1	10	11	21	.026
More	c	d	20	
	10	10		
	20	21	N=41	

2. FLE

	A	C-D		
Fewer	a	b		
0	12	11	23	.031
More	c	d	18	
	8	10		
	20	21	N=41	

8. HF

	A	C-D		
Fewer	a	b		
0	12	12	24	.017
More	c	d	17	
	8	9		
	20	21	N=41	

3. SRA

	A	C-D		
Fewer	a	b		
1	16	12	28	1.52
More	c	d	13	
	4	9		
	20	21	N=41	

9. FVE

	A	C-D		
Fewer	a	b		
0	9	11	20	.026
More	c	d	21	
	11	10		
	20	21	N=41	

4. CSM

	A	C-D		
Fewer	a	b		
1	11	12	23	.031
More	c	d	18	
	9	9		
	20	21	N=41	

10. ASW

	A	C-D		
Fewer	a	b		
1	16	14	30	.373
More	c	d	11	
	4	7		
	20	21	N=41	

5. SPR

	A	C-D		
Fewer	a	b		
2	13	12	25	.038
More	c	d	16	
	7	9		
	20	21	N=41	

11. CTP

	A	C-D		
Fewer	a	b		
0	14	13	27	.047
More	c	d	14	
	6	8		
	20	21	N=41	

Formula Used:

$$X^2 = \frac{(ad - bc - \frac{1}{2}N)^2}{(a+b)(a+c)(b+d)(c+d)}$$

6. PFR

	A	C-D		
Fewer	a	b		
1	15	11	26	1.39
More	c	d	15	
	5	10		
	20	21	N=41	

* The number appearing in the middle of the table is the median for that test.

1. 11. 1971

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13. 11. 1971

14. 11. 1971

15. 11. 1971

16. 11. 1971

MEDIAN TESTS -- MOONEY DATA

Female Seniors A vs. Female Seniors C-D

20

21

Number of Individuals Marking Total Problems

1. HPD

	A	C-D		
Fewer	a	b		
4	15	9	24	3.14
More	c	d		
	5	12	17	
	20	21	N=41	

7. MR

	A	C-D		
Fewer	a	b		
5	12	8	20	1.19
More	c	d		
	8	13	21	
	20	21	N=41	

2. FLE

	A	C-D		
Fewer	a	b		
3	13	10	23	.649
More	c	d		
	7	11	18	
	20	21	N=41	

8. HF

	A	C-D		
Fewer	a	b		
2	10	11	21	.026
More	c	d		
	10	10	20	
	20	21	N=41	

3. SRA

	A	C-D		
Fewer	a	b		
4	14	9	23	2.06
More	c	d		
	6	12	18	
	20	21	N=41	

9. FVE

	A	C-D		
Fewer	a	b		
4	12	10	22	.031
More	c	d		
	8	11	19	
	20	21	N=41	

4. CSM

	A	C-D		
Fewer	a	b		
5	13	10	23	.649
More	c	d		
	7	11	18	
	20	21	N=41	

10. ASW

	A	C-D		
Fewer	a	b		
5	16	6	22	8.93*
More	c	d		
	4	15	19	
	20	21	N=41	

5. SPR

	A	C-D		
Fewer	a	b		
7	13	12	25	.038
More	c	d		
	7	9	16	
	20	21	N=41	

11. CTP

	A	C-D		
Fewer	a	b		
3	13	10	23	.649
More	c	d		
	7	11	18	
	20	21	N=41	

Formula Used:

$$\chi^2 = \frac{(ad-bc - \frac{1}{2}N)^2}{(a+b)(a+c)(b+d)(c+d)}$$

6. PPR

	A	C-D		
Fewer	a	b		
5	13	8	21	1.99
More	c	d		
	7	13	20	
	20	21	N=41	

* The number appearing in the middle of the table is the median for that test.

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MEDIAN TESTS -- MOCNEY DATA

Male Seniors A vs. Male Seniors C-D

17

19

Number of Individuals Marking Serious Problems

1. HPD

	A	C-D		
Fewer	10 ^a	13 ^b	23	<u>.063</u>
0				
More	7 ^c	6 ^d	13	
	17	19	N=36	

7. MR

	A	C-D		
Fewer	8 ^a	11 ^b	19	<u>.099</u>
0				
More	9 ^c	8 ^d	17	
	17	19	N=36	

2. FLE

	A	C-D		
Fewer	14 ^a	14 ^b	28	<u>.029</u>
0				
More	3 ^c	5 ^d	8	
	17	19	N=36	

8. HF

	A	C-D		
Fewer	12 ^a	13 ^b	25	<u>.049</u>
0				
More	5 ^c	6 ^d	11	
	17	19	N=36	

3. SRA

	A	C-D		
Fewer	11 ^a	14 ^b	25	<u>.049</u>
0				
More	6 ^c	5 ^d	11	
	17	19	N=36	

9. FVE

	A	C-D		
Fewer	10 ^a	13 ^b	23	<u>.063</u>
0				
More	7 ^c	6 ^d	13	
	17	19	N=36	

4. CSM

	A	C-D		
Fewer	11 ^a	10 ^b	21	<u>.156</u>
0				
More	6 ^c	9 ^d	15	
	17	19	N=36	

10. ASW

	A	C-D		
Fewer	15 ^a	14 ^b	29	<u>1.91</u>
1				
More	2 ^c	5 ^d	7	
	17	19	N=36	

5. SPR

	A	C-D		
Fewer	9 ^a	15 ^b	24	<u>1.68</u>
0				
More	8 ^c	4 ^d	12	
	17	19	N=36	

11. CTP

	A	C-D		
Fewer	12 ^a	12 ^b	24	<u>.014</u>
0				
More	5 ^c	7 ^d	12	
	17	19	N=36	

Formula Used:

$$X^2 = \frac{(ad-bc)^2}{(a+b)(a+c)(b+d)(c+d)} \cdot \frac{1}{N}$$

1. $\frac{1}{2} \times \frac{1}{2} = \frac{1}{4}$

2. $\frac{1}{2} \times \frac{1}{2} = \frac{1}{4}$

3. $\frac{1}{2} \times \frac{1}{2} = \frac{1}{4}$

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9. $\frac{1}{2} \times \frac{1}{2} = \frac{1}{4}$

MEDIAN TESTS -- MOONEY DATA

Male Seniors A vs. Male Seniors C-D

17

19

Number of Individuals Marking Total Problems

1. HPD

	A	C-D		
Fewer	6 ^a	12 ^b	18	<u>1.78</u>
3				
More	11 ^c	7 ^d	18	
	17	19	N=36	

2. FLE

	A	C-D		
Fewer	13 ^a	8 ^b	21	<u>3.06</u>
3				
More	4 ^c	11 ^d	15	
	17	19	N=36	

3. SRA

	A	C-D		
Fewer	9 ^a	10 ^b	19	<u>.099</u>
3				
More	8 ^c	9 ^d	17	
	17	19	N=36	

4. CSM

	A	C-D		
Fewer	11 ^a	10 ^b	21	<u>.538</u>
4				
More	6 ^c	9 ^d	15	
	17	19	N=36	

5. SPR

	A	C-D		
Fewer	10 ^a	10 ^b	20	<u>.001</u>
4				
More	7 ^c	9 ^d	16	
	17	19	N=36	

6. PPR

	A	C-D		
Fewer	10 ^a	11 ^b	21	<u>.079</u>
5				
More	7 ^c	8 ^d	15	
	17	19	N=36	

7. MR

	A	C-D		
Fewer	12 ^a	12 ^b	24	<u>.014</u>
5				
More	5 ^c	7 ^d	12	
	17	19	N=36	

8. HF

	A	C-D		
Fewer	10 ^a	9 ^b	19	<u>.125</u>
1				
More	7 ^c	10 ^d	17	
	17	19	N=36	

9. FVE

	A	C-D		
Fewer	11 ^a	9 ^b	20	<u>.50</u>
4				
More	6 ^c	10 ^d	16	
	17	19	N=36	

10. ASW

	A	C-D		
Fewer	12 ^a	10 ^b	22	<u>.579</u>
7				
More	5 ^c	9 ^d	14	
	17	19	N=36	

11. CTP

	A	C-D		
Fewer	9 ^a	10 ^b	19	<u>.099</u>
4				
More	8 ^c	9 ^d	17	
	17	19	N=36	

Formula Used:

$$X^2 = \frac{(|ad-bc| - \frac{1}{2}N)^2 N}{(a+b)(a+c)(b+d)(c+d)}$$

THE UNIVERSITY OF CHICAGO

1961

1962

1. The first part of the paper is devoted to a discussion of the general theory of the problem. It is shown that the problem is equivalent to a system of linear equations.

2. In the second part, the problem is solved for the case of a single point. It is shown that the solution is unique and can be expressed in terms of the Green's function.

3. In the third part, the problem is solved for the case of a continuous distribution. It is shown that the solution is unique and can be expressed in terms of the Green's function.

4. In the fourth part, the problem is solved for the case of a continuous distribution. It is shown that the solution is unique and can be expressed in terms of the Green's function.

5. In the fifth part, the problem is solved for the case of a continuous distribution. It is shown that the solution is unique and can be expressed in terms of the Green's function.

6. In the sixth part, the problem is solved for the case of a continuous distribution. It is shown that the solution is unique and can be expressed in terms of the Green's function.

7. In the seventh part, the problem is solved for the case of a continuous distribution. It is shown that the solution is unique and can be expressed in terms of the Green's function.

8. In the eighth part, the problem is solved for the case of a continuous distribution. It is shown that the solution is unique and can be expressed in terms of the Green's function.

9. In the ninth part, the problem is solved for the case of a continuous distribution. It is shown that the solution is unique and can be expressed in terms of the Green's function.

10. In the tenth part, the problem is solved for the case of a continuous distribution. It is shown that the solution is unique and can be expressed in terms of the Green's function.

APPENDIX F

CHI SQUARE TEST -- QUESTIONNAIRE DATA

Leaders vs. Staff

1. HPD

	Agree	Disagree	
Leaders	12 ^a	10 ^b	22
Source* 7			0.15
Staff	24 ^c	14 ^d	38
	36	24	N=60

2. FLE

	Agree	Disagree	
Leaders	20 ^a	2 ^b	22
Source 3			0.36
Staff	31 ^c	7 ^d	38
	51	9	N=60

3. SRA

	Agree	Disagree	
Leaders	18 ^a	4 ^b	22
Source 3			0.68
Staff	26 ^c	12 ^d	38
	44	16	N=60

4. CSM

	Agree	Disagree	
Leaders	19 ^a	3 ^b	22
Source 3			0.12
Staff	33 ^c	5 ^d	38
	52	8	N=60

5. SPp

	Agree	Disagree	
Leaders	12 ^a	10 ^b	22
Source 3			0.02
Staff	20 ^c	18 ^d	38
	32	28	N=60

6. PPR

	Agree	Disagree	
Leaders	12 ^a	10 ^b	22
Source 3			1.13
Staff	14 ^c	24 ^d	38
	26	34	N=60

7. MR

	Agree	Disagree	
Leader	18 ^a	4 ^b	22
Source			5.53
Staff	18 ^c	20 ^d	38
	36	24	N=60

8. HF

	Agree	Disagree	
Leaders	9 ^a	13 ^b	22
Source 3			0.00
Staff	14 ^c	24 ^d	38
	23	37	N=60

9. FVE

	Agree	Disagree	
Leaders	10 ^a	12 ^b	22
Source 2			0.22
Staff	21 ^c	17 ^d	38
	31	29	N=60

10. ASW

	Agree	Disagree	
Leaders	17 ^a	5 ^b	22
Source 2			0.00
Staff	31 ^c	7 ^d	38
	48	12	N=60

11. CTP

	Agree	Disagree	
Leaders	13 ^a	9 ^b	22
Source 2			0.06
Staff	25 ^c	13 ^d	38
	38	22	N=60

Formula Used:

$$\chi^2 = \frac{(ad - bc)^2 - \frac{1}{N}}{(a+b)(c+d)(a+c)(b+d)}$$

* This number is the number of the guidance source on the sources of guidance

CHI SQUARE TEST -- QUESTIONNAIRE DATA

Leaders vs. Seniors

1. HPD

		Agree	Disagree		
Source	Lea.	a	b	22	11.86
	Sen.	c	d	113	
		12	10		
		20	93		
		32	103		N=135

2. FLE

		Agree	Disagree		
Source	Lea.	a	b	22	1.22
	Sen.	c	d	113	
		20	2		
		88	25		
		108	27		N=135

3. SRA

		Agree	Disagree		
Source	Lea.	a	b	22	24.19
	Sen.	c	d	113	
		18	4		
		28	85		
		46	89		N=135

4. CSM

		Agree	Disagree		
Source	Lea.	a	b	22	11.44
	Sen.	c	d	113	
		19	3		
		50	63		
		69	66		N=135

5. SPPr

		Agree	Disagree		
Source	Lea.	a	b	22	1.45
	Sen.	c	d	113	
		12	10		
		43	70		
		55	80		N=135

6. PPR

		Agree	Disagree		
Source	Lea.	a	b	22	1.65
	Sen.	c	d	113	
		12	10		
		42	71		
		54	81		N=135

7. MR

		Agree	Disagree		
Source	Lea.	a	b	22	10.89
	Sen.	c	d	113	
		18	4		
		46	67		
		64	71		N=135

8. HF

		Agree	Disagree		
Source	Lea.	a	b	22	0.85
	Sen.	c	d	113	
		9	13		
		32	81		
		41	94		N=135

9. FVE

		Agree	Disagree		
Source	Lea.	a	b	22	2.61
	Sen.	c	d	113	
		10	12		
		29	84		
		39	96		N=135

10. ASW

		Agree	Disagree		
Source	Lea.	a	b	22	8.48
	Sen.	c	d	113	
		17	5		
		46	67		
		63	72		N=135

11. CTP

		Agree	Disagree		
Source	Lea.	a	b	22	2.81
	Sen.	c	d	113	
		13	9		
		42	71		
		55	80		N=135

Formula Used:

$$\chi^2 = \frac{(ad - bc)^2 - \frac{1}{N}}{(a+b)(a+c)(b+d)(c+d)}$$

* This number is the number of the guidance source on the sources of guidance

1. The first part of the paper is devoted to a discussion of the general principles of the theory of the structure of the universe.

2. The second part is devoted to a discussion of the general principles of the theory of the structure of the universe.

3. The third part is devoted to a discussion of the general principles of the theory of the structure of the universe.

4. The fourth part is devoted to a discussion of the general principles of the theory of the structure of the universe.

5. The fifth part is devoted to a discussion of the general principles of the theory of the structure of the universe.

6. The sixth part is devoted to a discussion of the general principles of the theory of the structure of the universe.

7. The seventh part is devoted to a discussion of the general principles of the theory of the structure of the universe.

8. The eighth part is devoted to a discussion of the general principles of the theory of the structure of the universe.

9. The ninth part is devoted to a discussion of the general principles of the theory of the structure of the universe.

10. The tenth part is devoted to a discussion of the general principles of the theory of the structure of the universe.

11. The eleventh part is devoted to a discussion of the general principles of the theory of the structure of the universe.

CHI SQUARE TEST -- QUESTIONNAIRE DATA

Leaders vs. Sophomores

1. HPD

		Agree	Disagree	
Source*7	Lea.	a	b	22
	Soph	c	d	
		12	10	22
		28	121	149
		40	13	N=171

2. FLE

		Agree	Disagree	
Source 3	Lea.	a	b	22
	Soph	c	d	
		20	2	22
		121	28	149
		141	30	N=171

3. SRA

		Agree	Disagree	
Source 3	Lea.	a	b	22
	Soph	c	d	
		18	4	22
		56	93	149
		74	97	N=171

4. CSM

		Agree	Disagree	
Source 3	Lea.	a	b	22
	Soph	c	d	
		19	3	22
		81	68	149
		100	71	N=171

5. SPR

		Agree	Disagree	
Source 3	Lea.	a	b	22
	Soph	c	d	
		12	10	22
		62	87	149
		74	97	N=171

6. PPR

		Agree	Disagree	
Source 3	Lea.	a	b	22
	Soph	c	d	
		12	10	22
		68	81	149
		80	9	N=171

7. MR

		Agree	Disagree	
Source 3	Lea.	a	b	22
	Soph.	c	d	
		18	4	22
		62	87	149
		80	91	N=171

8. HF

		Agree	Disagree	
Source 3	Lea.	a	b	22
	Soph.	c	d	
		9	13	22
		50	99	149
		59	112	N=171

9. FVE

		Agree	Disagree	
Source 2	Lea.	a	b	22
	Soph	c	d	
		10	12	22
		48	101	149
		58	113	N=171

10. ASW

		Agree	Disagree	
Source 2	Lea.	a	b	22
	Soph	c	d	
		17	5	22
		64	85	149
		81	90	N=171

11. CTP

		Agree	Disagree	
Source 2	Lea.	a	b	22
	Soph	c	d	
		13	9	22
		60	89	149
		73	98	N=171

Formula Used:

$$\chi^2 = \frac{(ad - bc)^2 - \frac{1}{N}}{(a+b)(a+c)(b+d)(c+d)}$$

* This number is the number of the guidance source on the sources of guidance

CHI SQUARE TEST -- QUESTIONNAIRE DATA

Staff vs. Seniors

1. HPD

	Agree	Disagree	
Staff	a	b	
Source* 7	24	14	38 26.30
Sen.	c	d	
	20	93	113
	44	107	N=151

2. FLE

	Agree	Disagree	
Staff	a	b	
Source 3	31	7	38 .06
Sen.	c	d	
	88	25	113
	119	32	N=151

3. SRA

	Agree	Disagree	
Staff	a	b	
Source 3	26	12	38 21.72
Sen.	c	d	
	28	85	113
	54	97	N=151

4. CSM

	Agree	Disagree	
Staff	a	b	
Source 3	33	5	38 19.16
Sen.	c	d	
	50	63	113
	83	68	N=151

5. SPPr

	Agree	Disagree	
Staff	a	b	
Source 3	20	18	38 1.92
Sen.	c	d	
	43	70	113
	63	88	N=151

6. PPR

	Agree	Disagree	
Staff	a	b	
Source 2	14	24	38 24.30
Sen.	c	d	
	5	108	113
	19	132	N=151

7. MR

	Agree	Disagree	
Staff	a	b	
Source 6	18	20	38 .02
Sen.	c	d	
	50	63	113
	68	83	N=151

8. HF

	Agree	Disagree	
Staff	a	b	
Source 3	14	24	38 .61
Sen.	c	d	
	32	81	113
	46	105	N=151

9. FVE

	Agree	Disagree	
Staff	a	b	
Source 2	21	17	38 9.95
Sen.	c	d	
	29	84	113
	50	101	N=151

10. ASW

	Agree	Disagree	
Staff	a	b	
Source 2	31	7	38 17.41
Sen.	c	d	
	46	67	113
	77	74	N=151

11. CTP

	Agree	Disagree	
Staff	a	b	
Source 2	25	13	38 8.31
Sen.	c	d	
	42	71	113
	67	84	N=151

Formula Used:

$$X^2 = \frac{(ad - bc)^2 - \frac{1}{2}N}{(a+b)(c+d)(a+c)(b+d)}$$

* This number is the number of the guidance source on the sources of guidance

CHI SQUARE TEST -- QUESTIONNAIRE DATA

Staff vs. Soph.

1. HPD

	Agree	Disagree	
Staff	a	b	
Source*7	24	14	38 27.52
Soph.	c	d	
	28	121	149
	52	135	N=187

2. FLE

	Agree	Disagree	
Staff	a	b	
Source 3	31	7	38 .03
Soph.	c	d	
	121	28	149
	152	35	N=187

3. SRA

	Agree	Disagree	
Staff	a	b	
Source 3	26	12	38 10.47
Soph	c	d	
	56	93	149
	82	105	N=187

4. CSM

	Agree	Disagree	
Staff	a	b	
Source 3	33	5	38 12.09
Soph	c	d	
	81	68	149
	114	73	N=187

5. Spr

	Agree	Disagree	
Staff	a	b	
Source 3	20	18	38 1.08
Soph	c	d	
	62	87	149
	82	105	N=187

6. PPR

	Agree	Disagree	
Staff	a	b	
Source 2	14	24	38 21.95
Soph	c	d	
	10	139	149
	24	163	N=187

7. MR

	Agree	Disagree	
Staff	a	b	
Source 6	18	20	38 .15
Soph	c	d	
	63	86	149
	81	106	N=187

8. HF

	Agree	Disagree	
Staff	a	b	
Source 3	14	24	38 .036
Soph	c	d	
	50	99	149
	64	123	N=187

9. FVE

	Agree	Disagree	
Staff	a	b	
Source 2	21	17	38 5.95
Soph	c	d	
	48	101	149
	69	118	N=187

10. ASW

	Agree	Disagree	
Staff	a	b	
Source 2	31	7	38 16.56
Soph	c	d	
	64	85	149
	95	92	N=187

11. CTP

	Agree	Disagree	
Staff	a	b	
Source 2	25	13	38 6.96
Soph	c	d	
	60	89	149
	85	102	N=187

Formula Used:

$$\chi^2 = \frac{(ad - bc)^2}{(a+b)(c+d)(a+c)(b+d)} N$$

* This number is the number of the guidance source on the sources of guidance

CHI SQUARE TEST -- QUESTIONNAIRE DATA

Males vs. Females

1. HPD

		Agree Disagree		
Source	M	a	b	
	F	c	d	
3	123	63	186	.21
	152	69	221	
	275	132	N=407	

2. FLE

		Agree Disagree		
Source	M	a	b	
	F	c	d	
3	146	40	186	.07
	177	44	221	
	323	84	N=407	

3. SRA

		Agree Disagree		
Source	M	a	b	
	F	c	d	
4	80	106	186	.69
	85	136	221	
	165	242	N=407	

4. CSM

		Agree Disagree		
Source	M	a	b	
	F	c	d	
3	80	106	186	10.65
	132	89	221	
	212	195	N=407	

5. SPp

		Agree Disagree		
Source	M	a	b	
	F	c	d	
3	64	122	186	2.77
	95	126	221	
	159	248	N=407	

6. PPR

		Agree Disagree		
Source	M	a	b	
	F	c	d	
3	73	113	186	.09
	91	130	221	
	164	243	N=407	

7. MR

		Agree Disagree		
Source	M	a	b	
	F	c	d	
6	79	107	186	0.0
	95	126	221	
	174	233	N=407	

8. HF

		Agree Disagree		
Source	M	a	b	
	F	c	d	
3	65	121	186	.97
	66	155	221	
	131	276	N=407	

9. FVE

		Agree Disagree		
Source	M	a	b	
	F	c	d	
3	102	84	186	.54
	112	109	221	
	214	193	N=407	

10. ASW

		Agree Disagree		
Source	M	a	b	
	F	c	d	
2	82	104	186	.46
	89	132	221	
	171	236	N=407	

11. CTP

		Agree Disagree		
Source	M	a	b	
	F	c	d	
2	76	110	186	.001
	91	130	221	
	167	240	N=407	

Formula Used:

$$X^2 = \frac{(ad - bc)^2}{(a+b)(a+c)(b+d)(c+d)}$$

* This number is the number of the guidance source on the sources of guidance

CHI SQUARE TEST -- QUESTIONNAIRE DATA

Seniors vs. Sophomores

1. HPD

		Agree	Disagree		
Source*	Sen.	a	b		
	Soph	c	d		
	73	40	113	.09	
	100	49	149		
	173	89	N=262		

2. FLE

		Agree	Disagree		
Source 3	Sen.	a	b		
	Soph	c	d		
	88	25	113	.26	
	121	28	149		
	209	53	N=262		

3. SRA

		Agree	Disagree		
Source 1	Sen.	a	b		
	Soph	c	d		
	54	59	113	5.92	
	48	101	149		
	102	160	N=262		

4. CSM

		Agree	Disagree		
Source 3	Sen.	a	b		
	Soph	c	d		
	50	63	113	2.24	
	81	68	149		
	131	131	N=262		

5. Spr

		Agree	Disagree		
Source 3	Sen.	a	b		
	Soph	c	d		
	43	70	113	.21	
	62	87	149		
	105	157	N=262		

6. PPR

		Agree	Disagree		
Source 3	Sen.	a	b		
	Soph	c	d		
	41	72	113	1.95	
	68	81	149		
	109	153	N=262		

7. MR

		Agree	Disagree		
Source 6	Sen.	a	b		
	Soph	c	d		
	50	63	113	.04	
	63	86	149		
	113	149	N=262		

8. HF

		Agree	Disagree		
Source 3	Sen.	a	b		
	Soph	c	d		
	32	81	113	.59	
	50	99	149		
	82	180	N=262		

9. FVE

		Agree	Disagree		
Source 3	Sen.	a	b		
	Soph	c	d		
	58	55	113	.47	
	84	65	149		
	142	120	N=262		

10. ASW

		Agree	Disagree		
Source 2	Sen.	a	b		
	Soph	c	d		
	46	67	113	.06	
	64	85	149		
	110	152	N=262		

11. CTP

		Agree	Disagree		
Source 2	Sen.	a	b		
	Soph	c	d		
	42	71	113	.15	
	60	89	149		
	102	160	N=262		

Formula Used:

$$\chi^2 = \frac{(|ad - bc| - \frac{1}{2}N)^2}{(a+b)(a+c)(b+d)(c+d)}$$

* This number is the number of the guidance source on the sources of guidance

CHI SQUARE TEST -- QUESTIONNAIRE DATA

Total Students A vs. C and D

1. HPD

		Agree	Disagree		
Source	A	a	b		
	3	86	54	140	8.23
C-D		c	d		
		101	28	129	
		187	82	N= 269	

2. FLE

		Agree	Disagree		
Source	A	a	b		
	3	105	35	140	.92
C-D		c	d		
		104	25	129	
		209	60	N= 269	

3. SRA

		Agree	Disagree		
Source	A	a	b		
	4	66	74	140	3.67
C-D		c	d		
		45	84	129	
		111	158	N= 269	

4. CSM

		Agree	Disagree		
Source	A	a	b		
	3	61	79	140	3.55
C-D		c	d		
		72	57	129	
		133	136	N= 269	

5. SPp

		Agree	Disagree		
Source	A	a	b		
	3	44	96	140	6.44
C-D		c	d		
		61	68	129	
		105	164	N= 269	

6. PPR

		Agree	Disagree		
Source	A	a	b		
	3	57	83	140	1.48
C-D		c	d		
		63	66	129	
		120	149	N= 269	

7. MR

		Agree	Disagree		
Source	A	a	b		
	3	54	86	140	.03
C-D		c	d		
		52	77	129	
		106	163	N= 269	

8. HF

		Agree	Disagree		
Source	A	a	b		
	3	37	103	140	.17
C-D		c	d		
		38	91	129	
		75	194	N= 269	

9. FVE

		Agree	Disagree		
Source	A	a	b		
	3	67	73	140	1.11
C-D		c	d		
		71	58	129	
		138	131	N= 269	

10. ASW

		Agree	Disagree		
Source	A	a	b		
	3	56	84	140	.37
C-D		c	d		
		46	83	129	
		102	167	N= 269	

11. CTP

		Agree	Disagree		
Source	A	a	b		
	2	60	80	140	.67
C-D		c	d		
		48	81	129	
		108	161	N= 269	

Formula Used:

$$X^2 = \frac{(|ad - bc| - \frac{1}{2}N)^2}{(a+b)(c+d)(a+c)(b+d)}$$

* This number is the number of the guidance source on the sources of guidance

CHI SQUARE TEST -- QUESTIONNAIRE DATA

Male Srs. Class Avs. C and D

1. HPD

		Agree	Disagree		
Source	A	a	b		
	3	10	6	16	.20
C-D		c	d		
		15	5	20	
		25	11	N=36	

2. FLE

		Agree	Disagree		
Source	A	a	b		
	3	11	5	16	1.39
C-D		c	d		
		18	2	20	
		29	7	N=36	

3. SRA

		Agree	Disagree		
Source	A	a	b		
	4	11	5	16	1.91
C-D		c	d		
		8	12	20	
		19	17	N=36	

4. GCM

		Agree	Disagree		
Source	A	a	b		
	4	9	7	16	.88
C-D		c	d		
		7	13	20	
		16	20	N=36	

5. SPR

		Agree	Disagree		
Source	A	a	b		
	4	7	9	16	.69
C-D		c	d		
		5	15	20	
		12	24	N=36	

6. PPR

		Agree	Disagree		
Source	A	a	b		
	3	6	10	16	.04
C-D		c	d		
		8	12	20	
		14	22	N=36	

7. MR

		Agree	Disagree		
Source	A	a	b		
	3	8	8	16	.07
C-D		c	d		
		8	12	20	
		16	20	N=36	

8. HF

		Agree	Disagree		
Source	A	a	b		
	4	9	7	16	2.46
C-D		c	d		
		5	15	20	
		14	22	N=36	

9. FVE

		Agree	Disagree		
Source	A	a	b		
	3	10	6	16	.037
C-D		c	d		
		12	8	20	
		22	14	N=36	

10. ASW

		Agree	Disagree		
Source	A	a	b		
	4	6	10	16	.62
C-D		c	d		
		4	16	20	
		10	26	N=36	

11. CTP

		Agree	Disagree		
Source	A	a	b		
	4	7	9	16	.001
C-D		c	d		
		10	10	20	
		17	19	N=36	

Formula Used:

$$X^2 = \frac{(|ad - bc| - \frac{1}{2}N)^2}{(a+b)(a+c)(b+d)(c+d)}$$

* This number is the number of the guidance source on the sources of guidance

CHI SQUARE TEST -- QUESTIONNAIRE DATA

Male Sophs. A vs. C and D

1. HPD

		Agree	Disagree		
Source	A	a	b		
	3	12	13	25	6.06
C-D		c	d		
		19	3	22	
		31	16	N=47	

2. FLE

		Agree	Disagree		
Source	A	a	b		
	3	21	4	25	.046
C-D		c	d		
		17	5	22	
		38	9	N=47	

3. SRA

		Agree	Disagree		
Source	A	a	b		
	3	9	16	25	.002
C-D		c	d		
		9	13	22	
		18	29	N=47	

4. CSM

		Agree	Disagree		
Source	A	a	b		
	3	8	17	25	1.60
C-D		c	d		
		12	10	22	
		20	27	N=47	

5. SPR

		Agree	Disagree		
Source	A	a	b		
	4	7	18	25	.20
C-D		c	d		
		4	18	22	
		11	36	N=47	

6. PPR

		Agree	Disagree		
Source	A	a	b		
	3	12	13	25	1.21
C-D		c	d		
		15	7	22	
		27	20	N=47	

7. MR

		Agree	Disagree		
Source	A	a	b		
	6	13	12	25	1.21
C-D		c	d		
		7	15	22	
		20	27	N=47	

8. HF

		Agree	Disagree		
Source	A	a	b		
	3	9	16	25	.11
C-D		c	d		
		6	16	22	
		15	32	N=47	

9. FVE

		Agree	Disagree		
Source	A	a	b		
	3	15	10	25	.002
C-D		c	d		
		14	8	22	
		29	18	N=47	

10. ASW

		Agree	Disagree		
Source	A	a	b		
	2	14	11	25	1.88
C-D		c	d		
		7	15	22	
		21	26	N=47	

11. CTP

		Agree	Disagree		
Source	A	a	b		
	2	12	13	25	.26
C-D		c	d		
		8	14	22	
		20	27	N=47	

Formula Used:

$$\chi^2 = \frac{(ad - bc)^2 - \frac{N}{4}}{(a+b)(a+c)(b+d)(c+d)}$$

* This number is the number of the guidance source on the sources of guidance

CHI SQUARE TEST -- QUESTIONNAIRE DATA

Seniors Girls A vs. C and D

1. HPD

		Agree	Disagree		
Source	A	a	b		
	3	12	8	20	0.0
C-D		c	d		
		13	7	20	
		25	15	N=40	

2. FLE

		Agree	Disagree		
Source	A	a	b		
	3	14	6	20	.13
C-D		c	d		
		16	4	20	
		30	10	N=40	

3. SRA

		Agree	Disagree		
Source	A	a	b		
	4	9	11	20	.10
C-D		c	d		
		9	11	20	
		18	22	N=40	

4. CSM

		Agree	Disagree		
Source	A	a	b		
	3	11	9	20	0.0
C-D		c	d		
		12	8	20	
		23	17	N=40	

5. SPR

		Agree	Disagree		
Source	A	a	b		
	3	7	13	20	1.60
C-D		c	d		
		12	8	20	
		19	21	N=40	

6. PPR

		Agree	Disagree		
Source	A	a	b		
	3	6	14	20	.11
C-D		c	d		
		8	12	20	
		14	26	N=40	

7. MR

		Agree	Disagree		
Source	A	a	b		
	7	10	10	20	.10
C-D		c	d		
		12	8	20	
		22	18	N=40	

8. HF

		Agree	Disagree		
Source	A	a	b		
	5	8	12	20	5.16
C-D		c	d		
		1	19	20	
		9	31	N=40	

9. FVE

		Agree	Disagree		
Source	A	a	b		
	2	7	13	20	.12
C-D		c	d		
		5	15	20	
		12	28	N=40	

10. ASW

		Agree	Disagree		
Source	A	a	b		
	3	8	12	20	2.01
C-D		c	d		
		3	17	20	
		11	29	N=40	

11. CTP

		Agree	Disagree		
Source	A	a	b		
	2	7	13	20	0.0
C-D		c	d		
		8	12	20	
		15	25	N=40	

Formula Used:

$$\chi^2 = \frac{(ad - bc)^2 - \frac{1}{N}}{(a+b)(a+c)(b+d)(c+d)}$$

* This number is the number of the guidance source on the sources of guidance

CHI SQUARE TEST -- QUESTIONNAIRE DATA

Soph. Girls Class Avg. C and D

1. HPD

		Agree	Disagree	
Source	A	a	b	
	3	18	10	28
C-D		c	d	
		20	2	22
		38	12	N=50

3.111

2. FLE

		Agree	Disagree	
Source	A	a	b	
	3	23	5	28
C-D		c	d	
		17	5	22
		40	10	N=50

.005

3. SRA

		Agree	Disagree	
Source	A	a	b	
	3	11	17	28
C-D		c	d	
		12	10	22
		23	27	N=50

.62

4. CSM

		Agree	Disagree	
Source	A	a	b	
	3	14	14	28
C-D		c	d	
		16	6	22
		30	20	N=50

1.79

5. SPp

		Agree	Disagree	
Source	A	a	b	
	3	11	17	28
C-D		c	d	
		11	11	22
		22	28	N=50

.22

6. PPR

		Agree	Disagree	
Source	A	a	b	
	3	15	13	28
C-D		c	d	
		12	10	22
		27	23	N=50

.05

7. MR

		Agree	Disagree	
Source	A	a	b	
	3	15	13	28
C-D		c	d	
		9	13	22
		24	26	N=50

.365

8. HF

		Agree	Disagree	
Source	A	a	b	
	4	8	20	28
C-D		c	d	
		1	21	22
		9	41	N=50

3.33

9. FVE

		Agree	Disagree	
Source	A	a	b	
	3	16	12	28
C-D		c	d	
		10	12	22
		26	24	N=50

.29

10. ASW

		Agree	Disagree	
Source	A	a	b	
	3	17	11	28
C-D		c	d	
		7	15	22
		24	26	N=50

3.04

11. CTP

		Agree	Disagree	
Source	A	a	b	
	2	14	14	28
C-D		c	d	
		6	16	22
		20	30	N=50

1.79

Formula Used:

$$\chi^2 = \frac{(ad - bc)^2 - \frac{1}{N}}{(a+b)(a+c)(b+d)(c+d)}$$

* This number is the number of the guidance source on the sources of guidance

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