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# Counselor Opinion as a Predictor of Academic Success for Entering College Freshmen

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Dicken,

Billy G.

1974

COUNSELOR OPINION AS A PREDICTOR OF ACADEMIC  
SUCCESS FOR ENTERING COLLEGE FRESHMEN

A Project  
Presented to  
the Faculty of the Department of Counselor Education  
Western Kentucky University  
Bowling Green, Kentucky

In Partial Fulfillment  
of the Requirements for the Degree  
Specialist in Education

by  
Billy G. Dicken  
May 1974

COUNSELOR OPINION AS A PREDICTOR OF ACADEMIC  
SUCCESS FOR ENTERING COLLEGE FRESHMEN

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COUNSELOR OPINION AS A PREDICTOR OF ACADEMIC  
SUCCESS OF ENTERING COLLEGE FRESHMEN

Billy G. Dicken

May 1974

65 pages

Directed by: DeWayne Mitchell, Faye Robinson, Carl Kreisler  
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The purpose of this study was to determine if high school counselors' predictive opinions of freshman college academic success were reliable indicators of actual college academic success achieved by freshman students.

Eleven null hypotheses were tested which involved high school counselors' opinions of college freshman grade point average and actual college grade point average achieved by freshmen in regard to the following variables: (1) sex of the counselor, (2) high school location, (3) sex of the student, (4) high school size, and (5) high school accreditation. All except one of the null hypotheses were rejected at the .05 level of confidence. The one null hypothesis retained involved male counselors' grade point average predictions for female students.

Yule's Q was the main statistical method used in determining the relationship between the variables as stated in the hypotheses. Chi-square was used in testing null hypotheses when cross-analysis of data was needed.

The findings indicated that counselors generally over-predict grade point averages for their students. However, female counselors predicted more accurately than

male counselors for grade point average. Counselors in small schools predicted more accurately for grade point average than counselors in large schools. Counselors in high schools with a Kentucky accreditation of Standard and Basic predicted more accurately for grade point average than did counselors in high schools accredited as Comprehensive and Accredited. In regard to location, counselors in the Western Kentucky area predicted more accurately for college freshman grade point average at Western Kentucky University than did counselors in the Central and Eastern Kentucky areas.

The significant differences found in this study may be the result of several factors. For example, female counselors may be more methodical and careful in making use of predictive data than male counselors. The "halo effect" may have entered into the relationship between male counselors and female students in regard to grade point average prediction. Counselors in small schools, which are generally accredited as Standard and Basic, may be better acquainted with their students' home and school situations and therefore are better able to forecast college grade point average. Counselors in the Western Kentucky area may be graduates of and/or are familiar with the academic offerings as well as the grading system at Western Kentucky University.

## CHAPTER 1

### INTRODUCTION

#### Background of the Problem

College administrators and student personnel workers should be aware of effective methods of predicting academic success for their entering students. Effective methods of predicting academic success would save time and money on the part of both student and school by minimizing student failures through better faculty advising and placement of students in courses appropriate to their interests and in line with their academic backgrounds.

Among the predictive methods and combinations of evaluative procedures currently in use are test scores, grade point averages, rank-in-class, interviews, and recommendations. Logically, the more information that educators obtain on a particular student, the more effective and accurate forthcoming decisions would be regarding the student. The opinion of someone who works closely with the student prior to his entrance into college should add valuable information to this decision making process. One such person is the secondary school guidance counselor.

The counseling literature indicates that counselors have, indeed, long been occupied with making judgments and

predictions about future student adjustment. In 1937, Ruth Strang<sup>1</sup> described the analysis of student data by the counselor:

Systematically he first examines the data for accuracy, completeness and relevancy; then formulates the most plausible interpretations and finally evaluates these tentative interpretations with the purpose of arriving at a best judgment.

Williamson<sup>2</sup>, 1939, enumerated a list of steps in describing the work of a counselor. Included in this list was the counselor's prediction of the future development of a student's problem or the probable outcome of a choice of a particular course of action. More recently, Herr and Cramer<sup>3</sup> felt that intuition as well as test data and observation played a part in counselors' predictions of student behavior.

Since much of the counselor's work with students seems to be future oriented, and since counselors work closely with students in college planning they should be able to offer colleges valuable insights into future student behavior.

Siegel<sup>4</sup> indicated that counselors assist the student in his college planning by assessing his potential for college,

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<sup>1</sup>Ruth Strang, Counseling Technics in College and Secondary Schools, (New York: Harper and Brothers, 1937), p. 47.

<sup>2</sup>E.G. Williamson, How to Counsel Students, (New York: McGraw-Hill, 1939), p. 57.

<sup>3</sup>Edwin L. Herr and Stanley H. Cramer, Vocational Guidance and Career Development in the Schools: Toward a Systems Approach, (Boston: Houghton-Mifflin, 1972), p. 254.

<sup>4</sup>Max Siegel, ed., The Counseling of College Students, (New York: The Free Press, 1961), pp. 119-125.

giving various tests and interpreting results to the student, counseling with him regarding college, arranging interviews with college representatives, and helping the student make the transition from high school to college.

The transition from high school to college is an important period in the student's life. Williamson<sup>5</sup> emphasized that students' transition problems from high school to college are the focus for organized student services. He felt that the central concern by the college was for the welfare of the student and for the maximum use of his potentials. Information about the student during this period is needed. Fitzgerald<sup>6</sup> stated that most colleges want personal insight into the student's desires and drives in addition to a strong recommendation for admission from the high school. It appears that the counselor is in a good position to relay to the colleges knowledgeable predictions of future student behavior and achievement.

#### Statement of the Problem

With the above background in mind, it was the purpose of this investigation to determine the relationship between high school counselors' opinions of academic success for

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<sup>5</sup>E.G. Williamson, Student Personnel Services in Colleges and Universities, (New York: McGraw-Hill, 1961), p. 180.

<sup>6</sup>Laurine E. Fitzgerald, Walter Johnson, Willa Norris, eds., College Student Personnel, (Boston: Houghton-Mifflin, 1970), p. 258.

entering college freshmen and the actual academic success of the entering freshmen.

### Objectives of the Study

The objectives of this study were to test eleven null hypotheses involving counselors' opinions of freshman academic success and various factors such as sex of the counselor, sex of the student, location of high schools, high school size, and accreditations of the high schools.

The purpose of testing these hypotheses was to determine if the opinions expressed by high school counselors could be relied upon as accurate sources of information in predicting college freshman academic success.

### Delimitations

This investigation was limited to college freshmen who had entered Western Kentucky University for the first time and on a full time basis for both semesters of the school year of 1972-73. This investigation was further limited to those students on whose applications for admission public high school guidance counselors in Kentucky expressed opinions as to the chances of the applicants' success at Western.

### Definitions

Counselor. A counselor is that person who holds the position of guidance counselor in a public high school in Kentucky.

Counselors' predictive opinions. Those opinions

expressed by Kentucky public school counselors as to the students' chances for academic success at Western Kentucky University are referred to as counselors' predictive opinions.

Academic success. Academic success refers to any college grade point average that was predicted for and/or attained by the freshmen in this study.

Freshmen. Kentucky high school graduates who entered Western Kentucky University for the first time and on a full time basis for the school year 1972-73 are freshmen.

#### Assumptions

It was assumed in the course of this investigation that the opinions expressed by the counselors were typical of the predictions for not only the students in this study but all of the counselors' clients in similar situations.

#### Summary

Several methods of predicting college academic success are in current use. It would appear that the opinion of the high school counselor who works closely with students during their secondary school years would reflect valuable information in helping predict student academic success in college.

The literature indicates that counselors are future oriented in their work with students, and that they have long been concerned with predicting future student behavior. Counselors assist students in college planning and help students make the transition from high school to college. In helping students make this transition, counselors are in a position

to relay to the colleges valuable information about future student behavior and achievement.

Against this background, it was the purpose of this study to test hypotheses relating to the association between high school counselors' predictive opinions of freshman college success and actual freshman college academic success.

The delimitations of this study were those of limiting the students to those college freshmen who had graduated from a Kentucky high school and who entered Western Kentucky University for the first time and on a full time basis during the school year of 1972-73. Another delimitation was that the students' high school counselors should have expressed opinions as to the students' chances for success at Western.

It was assumed in the course of this investigation that the opinions expressed by the counselors were typical of the field predictions made for all the counselors' clients.

## CHAPTER 2

### REVIEW OF SELECTED RELATED LITERATURE

#### Introduction

Numerous studies have been done in reference to the prediction of college academic success. Such studies have investigated the relationship between freshman college grades and various factors such as high school grade point average, rank-in-class, achievement test scores, academic aptitude test scores, size of high school, and socio-economic background. However, investigations of high school counselors' predictions of freshman college academic success seem to be sparse.

#### Review of Empirical Literature

The accuracy with which counselors, parents, and students could predict college grade point averages was the object of an investigation conducted by Cashen<sup>7</sup>. She sought to determine which of the three groups could predict most accurately. First semester freshmen enrolled in general psychology, their parents, and the high school counselors

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<sup>7</sup>Valjean M. Cashen, "Parents', Students' and Counselors' Prediction of Academic Success," The Journal of Educational Research 60 (January 1967): 212-214.

with whom the student talked about attending college were asked to predict the grade point average which the student would earn at the end of the first semester of college. Analysis of the data indicated that each of the groups, students, parents, and counselors, tended to over-estimate the grade point average. Correlations between the predicted and the achieved grade point average were: students, .54; parents, .60; and .59 for counselors. The differences in correlations among the groups were not statistically significant, and the author felt that each group did an acceptable job of predicting academic success.

Donivan Watley conducted several studies dealing with various aspects of counselor prediction on the basis of a research project supported by the U.S. Office of Education. For the majority of the studies, high school and college counselors made three separate predictions based on information under three sets of conditions on 100 male students in the Arts College at the University of Minnesota.

The data utilized in the three sets of conditions were as follows: Condition I included information on scholastic aptitude and past academic achievement; Condition II included all of the scholastic data above plus the results of the Strong Vocational Interest Blank (SVIB) and the Minnesota Multiphasic Personality Inventory (MMPI); and Condition III included not only all of the above data but also a great deal of biographical data and a statistical equation which could be used in predicting academic success.

Counselors studied the data in Condition I, then made predictions on each of the students as to the grades they would receive at the end of their freshman year and what over-all grade point average they would attain when college was completed. This forecasting was also done for the students after counselors studied the data in Condition II and again in Condition III.

In one of Watley's<sup>8</sup> studies, he sought not only to assess the accuracy of these predictions but also to determine the relationship between counselor predictive accuracy and the confidence counselors had in their predictions. The counselors were asked to indicate on a questionnaire the degree of confidence they had in their predictions. From the data, he drew the following conclusions: (1) Counselors' predictions were more accurate for freshman year grade point average than over-all college grade point average, and the counselors were more often correct in their predictions when they were most confident; (2) The amount of case information revealed to the counselors in the three conditions was not related to the accuracy of the counselors' predictions; (3) The degree of confidence counselors placed in their predictions of students obtaining a "C" or higher in their freshman year and throughout their college career was related to the accuracy of counselors' predictions; (4) The

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<sup>8</sup>Donivan J. Watley, "Counselor Confidence and Accuracy of Prognoses of Success or Failure," Personnel and Guidance Journal 45 (December 1966): 342-347.

degree of confidence counselors had in freshman grade point average failure predictions was not related to actual predictive accuracy. Unless the evidence was convincing, counselors were not inclined to predict failure for students; (5) Counselor confidence in predicting failures beyond the freshman year was not significantly related to predictive accuracy. Other findings indicated a correlation of .63 between actual and statistically predicted freshman grades, and a correlation of .53 between actual and statistically predicted four year grade point averages.

A two part study designed by Watley<sup>9</sup> sought to (1) determine the relationship between counselors' confidence in their predictions of grades and the accuracy of their predictions, and (2) to see if counselors who typically expressed confidence or lack of it in their predictions differed in ability as measured by the Miller Analogies Test (MAT) and in personality as measured by the Edwards Personal Preference Schedule (EPPS) and by the MMPI.

The results indicated that counselors who generally lacked confidence in their ability to predict grade point averages were correct more often than counselors who were confident in their predictions. The counselors were divided into groups according to their expressed degree of confidence in their predictions, and the correlations between

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<sup>9</sup>Donivan J. Watley, "Counselor Confidence in Accuracy of Predictions," Journal of Counseling Psychology (January 1966): 62-67.

counselor confidence and predictive skill showed the highly confident group obtaining a correlation of .57, the moderately confident group .59, and the least confident group .60.

In assessing ability and personality differences between counselors who expressed high confidence in their predictions and those who expressed low predictive confidence, the author found no significant differences at the .05 level of confidence for any of the scales on either the EPPS or the MMPI. However, the counselors who expressed low predictive confidence had a significantly higher mean score on the MAT than the more confident counselors. A mean score of 62.43 was obtained by the low predictive confident group as compared to a mean score of 46.40 for the high predictive confident group. Watley drew two inferences from this data: first, counselors who generally had low confidence in their predictive ability were better able to understand and deal with abstract concepts than counselors who generally had high confidence in their predictive ability, and second, counselors who were consistent in expressing high confidence in their predictive ability fail to understand the complexity of the predictive task.

Watley<sup>10</sup> conducted another study in which he sought answers to the questions regarding the cognitive procedures used by counselors to arrive at their predictions and the

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<sup>10</sup>Donivan J. Watley, "Predicting Freshman Grades and Counselors' Prediction Style," Personnel and Guidance Journal 46 (October 1967): 134-139.

relation of these procedures to actual predictive accuracy. In doing this study, he utilized the basic design previously described, but he also asked the counselors to retrace the mental process by which they arrived at their predictions of freshman grade point averages and to identify the case data used in making predictions. Counselors were then grouped into four classifications on the basis of the amount of individual model building they consistently engaged in. The classifications were (1) no model building, (2) some model building, (3) considerable model building, and (4) extensive model building.

The results indicated that counselors varied greatly in the use of case data to arrive at their predictions. Class 1 counselors routinely used a regression equation in their predictive attempts and did not try to build individual case models. In the second class, counselors predicted on the basis of an equation but made adjustments to individualize the predictions. The counselors in the third and fourth classes attempted to make each prediction independently and to construct a model for each case. The third class relied more on variables from case to case than the fourth class.

Further results indicated that counselors who typically used equations did not predict any more or less than counselors who typically constructed models for each case. Also, as in the previous studies, the amount of case material in each of the three conditions had no significant effect on

the predictive ability of the counselors. In looking at the fifteen best predictors of the sixty-six counselors, Watley found that twelve of them had attempted to construct some type of model rather than to rely on the same equation in every case. He surmised that counselors who typically used equations may not have known what numerical weight to apply to the variables (high school rank, etc.) which they used.

In an investigation in which counselor supervisors were asked to rate counselors as most or least effective in their work with students, Watley<sup>11</sup> found that counselors who predict most accurately seem to do the best job of counseling. Fourteen counselors in the Advisors Office of the College of Liberal Arts at the University of Minnesota were asked to make predictions on 100 male freshmen who entered the Liberal Arts College in the fall of 1959. These fourteen counselors were rated on their general counseling effectiveness by three supervisors who made the ratings independently of each other. A "Coefficient of Concordance" was computed for the supervisors' ratings and the agreement among the supervisors was found to be significant beyond the .01 level of confidence. The results indicated that the counselors rated most effective also had a significantly higher number of successful predictions than the less effec-

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<sup>11</sup>Donivan J. Watley, "Counselor Predictive Skill and Rated Counselor Effectiveness," Personnel and Guidance Journal 45 (February 1967): 579-583.

tive counselors. The most effective counselors averaged only 52 out of 100 correct predictions and this prompted Watley to suggest that the level of accuracy for counselor predictions needed to be improved.

In seeking to determine the relationship between the predictive skills of counselors and the expressed philosophical counseling theory to which they ascribe, Watley<sup>12</sup> asked fifty-five counselors to predict grades and persistence in a major field for each of 100 male students at the University of Minnesota. In addition, each counselor filled out a questionnaire on which he indicated his counseling philosophy and the amount of counseling experience he had. From this questionnaire the counselors were divided into four groups based on their philosophy or lack of it.

The counselors who indicated a trait-factor approach obtained a significantly higher number of successful predictions than the client-centered or the no-philosophy counselors. There were no significant differences between the philosophy groups on the amount of counseling experience, training, place of employment, or intelligence. Since the trait-factor and the client-centered philosophies are well defined, information obtained from counselors adhering to these philosophies are considered highly reliable by Watley. He felt that the study showed that proponents of these

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<sup>12</sup>Donivan J. Watley, "Counseling Philosophy and Counselor Predictive Skill," Journal of Counseling Psychology 14 (February 1967): 158-164.

philosophies have not only clearly opposing views about the importance of prediction but differed significantly in their predictive skills as well. Watley states that

. . . the trait-and factor counselors, who emphasize the importance of prediction, predicted both criteria (freshman grades and persistence) more accurately than the client-centered group, which places little importance upon diagnosis and prediction.

In a rather extensive study, Watley<sup>13</sup> attempted to assess the predictive variables among individual counselors and among groups of counselors who typically worked in different educational settings. He then assessed the reliability of the predictions made by the counselors. In all, sixty-six counselors took part in this study. Of this number, twelve were from the Student Counseling Bureau (SCB) at the University of Minnesota, fourteen were from the Lower Division Advisors Office in the Arts College (AC), and forty were area high school counselors. The study included the students and data utilized in the three sets of conditions of the basic design.

Analysis of the data suggested that the increased amount of information available from Condition I to Condition III neither increased nor decreased the predictive accuracy of the counselors. Watley felt that the counselors were probably more interested in the data presented in Con-

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<sup>13</sup>Donivan J. Watley, "Counselor Variability in Making Accurate Predictions," Journal of Counseling Psychology 13 (January 1966): 53-62.

dition I (scholastic aptitude and academic achievement) since this type of data correlates higher with grades than the additional data in Conditions II and III (personality, interest scores, and biographical data).

The findings also indicated that there were differences among the counselor groups in their ability to predict academic success. The counselors from the SCB had a significantly higher average of correct predictions than the AC and the high school counselors. The differences between the high school counselors and the AC counselors were not significant. Watley attributed this to the fact that not all of the counselors were equally informed about factors related to freshman achievement at the University of Minnesota. Also, the SCB counselors worked with students at all levels of college as well as some high school students whereas the high school and the AC counselors worked with more restricted groups of students.

The mean correlation between predicted and achieved freshman grade point averages for the high school counselors was .58, and the mean reliability correlation for this group was .84. In comparing group predictions to statistical equation predictions, Watley found that by using an equation in making grade point average predictions, a significant difference in the average scores the counselors obtained on the MAT and the Pt scale of the MMPI. This difference suggested to him that similar thought processes were involved in solving analogies and in making predictions from con-

structs. Differences which could be attributed to counselor socio-economic and school background were not significant.

Finally, Watley looked into variables the counselors used in making predictions. Of the data considered by the counselors in each of the three conditions, only high school rank and scores on the MSAT appeared to have practical significance in prediction making. Watley concluded that counselors might be taught how to improve their predictive skills by having them consider past scholastic performance and tested scholastic ability in making predictions.

A year after his project was completed, Watley<sup>14</sup> followed through with an investigation to determine if immediate feedback training had any effect upon the predictive ability of counselors. Using thirty-six of the counselors who were engaged in the initial project, he gave each of them information about their own predictive ability as well as the results of the studies. The counselors were then divided into three groups based on their predictive ability. Six counselors from each of these groups were selected to receive training in an attempt to determine if their forecasts could be improved. Counselors in each group were asked to predict freshman and over-all college grades on each of 50 male students at the University of Minnesota. Information was given to each counselor about the students'

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<sup>14</sup>Donivan J. Watley, "Feedback Training and Improvement of Clinical Forecasting," Journal of Counseling Psychology 15 (February 1968): 167-171.

past academic achievement, scholastic test scores, personality inventories, and biographical data. The counselors selected for training were provided immediate feedback data, i.e., the results of their predictions, and were allowed to study the feedback data before predicting for the next case. The other counselors made their predictions without the feedback data.

The results of this study indicated that the counselors who had predicted with a high or moderately high rate of accuracy in the past did not improve on their predictions through training. However, the counselors who had a low predictive rate of accuracy were able to improve their predictions to a level equal to that of the most accurate predictors.

In an unpublished doctoral dissertation, Hallberg<sup>15</sup> also sought to determine the effects of specific training for improving the accuracy of counselors' predictions of college achievement. He set up experimental and control groups made up of randomly selected students enrolled in different levels of counselor education at Arizona State University. In all, fifty-six counselors were asked to predict freshman grade point averages for 68 students who had been counseled at the guidance center.

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<sup>15</sup>Ernest T. Hallberg, "The Effects of Specific Training for Improving the Accuracy of Counselor Predictions of College Achievement" (PhD dissertation, Arizona State University, 1966).

The experimental counselor group was provided with practice predictions for thirty-three students, feedback of each student's achievement was provided, and then group discussions were held concerning factors aiding or inhibiting predictions. Following this phase of the investigation, the experimental and control counselor groups made predictions about the remaining students' freshman year grade point averages, pass or fail in major field subjects and attrition.

Significant differences were found to exist between the accuracy of predicting grade point averages and the other ratings of pass or fail in major field subjects and attrition. No significant differences in accuracy were found between groups at the different levels of counselor training, or the experimental group and the control group, or in comparisons made between actual counselor predictions versus statistical predictions. The accuracy of the predictions did not depend upon either the experimental treatment or the level of counselor education. In concluding, the author felt that specific training and general preparation in prediction did not guarantee a high level of accuracy.

#### Other Selected Related Studies

Although studies specifically concerning high school counselors' predictions of freshman academic success are scarce, studies involving prediction of academic success based on various high school factors are numerous. For example, in an investigation in which research was reviewed dealing with high school performance as predictive of college

performance Loeb<sup>16</sup> found that the high school grade point average was consistently the best single predictor. Other studies indicated to her that effort in distinguishing academic high school courses from non-academic courses would not be worthwhile from a predictive standpoint. Loeb also found that rank or grade point average at the end of four years of high school was no more of a predictive factor than the same information based on three years' work. The researcher also reviewed the literature on the consistency of high school grades and test scores obtained by high school students as a predictive factor, and found that some studies showed that students' ability to make consistent grades and test scores were reliable indicators of future work while other studies did not bear this out. Some high schools scale students' grade point averages or rank-in-class according to the grading practices in that particular school. In reviewing studies which investigated the effect of this scaling on prediction of academic success in college, Loeb found results to vary as to increased predictive power of scaled grades over unscaled grades. If a college admission test was used, scaled grades or rank-in-class was found to be not worthwhile for use in college admission practices. She found that in predicting academic success for students in central city areas and other impoverished high schools

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<sup>16</sup>Jane Loeb, "High School Performance as Predictive of College Performance," NASSP Bulletin 56 (September 1972): 19-25.

more attention should be focused on test scores than on high school performance.

In an attempt to develop a college prediction scheme to help high school counselors in working with students and parents, McCormick and Asher<sup>17</sup> investigated the high school records of students in the Baldwin-Whitehall School District in Pennsylvania to determine which aspects of the school record were related to success during the first semester in college. Included in the record and college data were first semester college grade point averages, high school grade point averages, curriculum area grade point averages, scores on the School and College Ability Test (SCAT), the Scholastic Aptitude Test (SAT), and the Otis Test of Mental Maturity.

The following correlations were obtained in comparing these variables to the college grade point average:

Otis . . . . .	0.440
SAT-Math . . . . .	0.440
SAT-Verbal . . . . .	0.400
SCAT-Verbal . . . . .	0.307
SCAT-Quantative . . . . .	0.369
Math Area . . . . .	0.580
Language Area . . . . .	0.575
High School GPA . . . . .	0.580

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<sup>17</sup>James H. McCormick and William Asher, "Aspects of the High School Record Related to the First Semester College Grade Point Average," Personnel and Guidance Journal 36 (March 1964): 699-703.

All Variables . . . . . 0.687

Scannell<sup>18</sup> probed college success prediction possibilities of both secondary school performance and elementary school performance. Involved in this study was the performance of 3202 Iowa students who had taken the Iowa Tests of Educational Development (ITED) as high school seniors during the years of 1948-52 and who enrolled the following fall in either the State University of Iowa or Iowa State College. Data collected on the students included the results of the Iowa Test of Basic Skills (ITBS) for grades 4, 6, and 8, the ITED, rank-in-class, high school grade point average, freshman college grade point average, four year college grade point average for graduates, and cumulative college grade point average for students withdrawing from college. He found that grade point average was a more stable predictor of academic success than rank-in-class when different size schools were involved. Rank-in-class for small graduating classes seemed to have questionable meaning for prediction. Other findings showed that prediction accuracy from achievement test scores, the ITBS and ITED increased year by year from fourth grade through high school. The comparison of high school grade point averages versus freshman college grade point averages yielded a correlation for predictive accuracy of .67 and high school grade point averages compared

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<sup>18</sup>Dale P. Scannell, "Prediction of College Success From Elementary and Secondary School Performance," Journal of Educational Psychology 51 (March 1960): 130-134.

to four year college grade point averages correlated .59 for predictive accuracy. ITED prediction equations were worked out for various schools and were found to deviate only slightly from school to school, and Scannell felt that these equations could be used at four year schools with similar admission policies. Finally, he found that elementary school test data (ITBS for grade 8) and freshman college grade point average yielded a high correlation of .85.

A study concerned with the prediction of college freshman quality point standing from normalized rank-in-class was conducted by Aiken<sup>19</sup>. The subjects in this study were all women students from North Carolina public schools who completed their freshman years at the Woman's College of the University of North Carolina in 1960, 1961, and 1962. These women were divided into seven groups of 150 students each based on the size of their high school graduating classes. Sampling results indicated that there were fewer large schools than small schools represented. Also, as the average high school class size increased, the corresponding average high school rank decreased. Aiken found that the smaller the graduating class the lower the correlation between high school rank and college grade point average. The correlations ranged from .44 for the smallest graduating

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<sup>19</sup>Lewis R. Aiken, Jr., "Rank in High School Graduating Classes of Various Sizes as a Predictor of College Grades," The Journal of Educational Research 58 (October 1964): 56-59.

class to .57 for the largest graduating class. There was a tendency for the correlations to level off but rise steadily as class size increased.

#### Possible Implications to the Study

The reviewed literature indicates that the prediction of college academic success is a complex entity. From the correlations obtained in the studies, one should expect a correlation in the range of .50 to .60 for Kentucky high school counselors' predictions of freshman college academic success. However, the studies reviewed in which high school counselors were involved were experimentally-structured prediction situations. This investigator's project is an attempt to assess how well counselors predict in actual field situations. The predictions resulting from an experimentally-structured prediction situation may differ from the ones actually made in practical situations. At any rate, it is hoped that this project will have a note of importance in that it will add further to the list of studies dealing specifically with high school counselors' predictions of student academic success in college.

#### Summary

By far the most extensive investigation into counselors' predictions of college academic success was conducted by Watley in his project supported by the U.S. Office of Education. From this project emerged several studies in which he probed into the relationship of prediction to

counselor confidence in accuracy of predictions, counselor variability in making predictions, counselor predictive style, counselor philosophy and predictive skill, counselor predictive skill and rated counselor effectiveness, and training to improve counselor predictions.

Other studies specifically dealing with high school counselors' predictions were conducted by Cashen in which she concluded that counselors did an acceptable job of predicting and by Hallberg whose dissertation results caused him to conclude that specific training in prediction would not guarantee a high level of accuracy.

Studies which were not specifically concerned with counselors' predictions included investigations into such various predictive factors as rank-in-class, high school performance, grade point averages, and scholastic achievement test scores. All of the studies revealed the complexity and variability in making predictions of academic success.

## CHAPTER 3

### THE DESIGN OF THE STUDY

#### Introduction

For several years the application form for undergraduate admission to Western Kentucky University has contained a section for high school officials to express opinions as to the applicant's chances for success at Western (see appendix A). Generally, the counselor is designated as the official to complete the form. These applications for admission are ultimately placed on file in the Office of Undergraduate Advisement along with other pertinent information to be used for counseling purposes. The opinions expressed by Kentucky high school counselors on these forms were used to assess the relationship between high school counselors' opinions of freshman college success and actual student success. Eleven null hypotheses were set up and tested by this study.

#### Null Hypotheses

The null hypotheses tested were as follows:

1. Counselors' opinions are not significant predictors of freshman college success.
2. There is no significant relationship between male counselors' opinions of college success and actual

college success attained.

3. There is no significant relationship between female counselors' opinions of college academic success and actual college academic success achieved.

4. There is no significant relationship between male counselors' opinions of male freshman college academic success and actual academic success of male freshmen.

5. There is no significant relationship between male counselors' opinions of female freshman college academic success and actual academic success of female freshmen.

6. There is no significant relationship between female counselors' opinions of male freshman college academic success and actual academic success of male freshmen.

7. There is no significant relationship between female counselors' opinions of female freshman college academic success and actual college academic success of female freshmen.

8. There is no significant relationship between the sex of counselors and the accuracy of their predictive opinions of freshman college academic success.

9. There is no significant association between counselors' predictive opinions of freshman college academic success and actual freshman college academic success based on the size of the high school from which the student graduated.

10. There is no significant relationship between counselors' predictive opinions of freshman college academic

success and actual freshman college academic success based on the accreditation of the high school from which the student graduated.

11. There is no significant relationship between counselors' predictive opinions of freshman college academic success and actual freshman college academic success based on the location of the high school from which the student graduated.

#### Procedure Followed

The design and procedure of the study are described in the following steps:

Step one was the identification and selection of the sample of students to be studied. After consulting with personnel in the University-School Relations Office concerning the acquisition of student data on incoming freshmen, it was decided that the freshman class of 1972-73 would be used in the study because of the availability of data on file. The 157 students in the sample were selected randomly from 2300 freshmen of the 1972-73 class at Western. To have been included in the sample, a student must have graduated from a public high school in Kentucky and the student's counselor must have expressed an opinion on the admission form as to the student's chances for success at Western.

Step two was the collection of data. Data were collected from the files in the University-School Relations Office and the Office of Undergraduate Advisement located

in the Administration Building at Western Kentucky University. The data included the name of the student in the sample, the sex of the student, the name, size, accreditation, and location of the student's high school, the counselor's sex and opinion, and freshman college grade point average of the student after two semesters at Western. In all, 128 public high schools were represented out of 194 Kentucky public high schools which supplied Western with freshmen in 1972-73.

Step three was the categorization of feeder schools from which students in the sample had graduated in regard to size, location, and accreditation. The booklet, Kentucky High Schools--List and Classification 1971, published by the Kentucky State Department of Education provided this information. The feeder high schools of the sample students were further categorized as to their location with respect to which of the seventeed Educational Development Districts they belonged (see appendix B). The Educational Development Districts (EDD) were established by the State Board of Education for the purposes of providing regional services by the Kentucky Department of Education and for cooperative educational program development among the local education agencies.

Step four was the assignment of numerical grade point averages to the opinions expressed by the counselors. The application form for undergraduate admission to Western (appendix A) contains space for the counselor to indicate

his opinion of the applicant's chances for academic success at Western. This space is categorized as Excellent, Good, Average, Poor, and Very Poor. As no student in the sample had been given a rating of Very Poor, this category was combined with the Poor category. The grade point averages were assigned to the counselors' opinions as follows:

Excellent . . . . .	3.30 and above
Good . . . . .	2.50 to 3.29
Average . . . . .	1.81 to 2.49
Poor . . . . .	1.80 and below

A grade point average of 3.30 represents the lower limits of the Dean's List, and a grade point average of 1.80 is the point at which academic probationary status is placed on a student after two semesters. The grade point average range of 1.81 to 2.49 was felt to be average work for this class of freshmen since the mean grade point average for this class was 2.1497. A good grade point average for this class was then assigned to be between 2.50 and 3.29.

Step five was the statistical analysis of the data. The variables compared with regard to counselor predictive opinion of academic success versus actual academic success included all students in the sample, male student, female student, male counselor, female counselor, and high school size, location, and accreditation. The comparison of data was accomplished with computer assistance at the University Computer Research Services located in Grise Hall at Western. Yule's Q, a statistic designed to measure the strength of

relationships between two variables, was the main statistic used because of the reliability of this statistic in analysing tables with small interior cells. Chi-square, because of its additive property, was also used to analyse data between two tables with similar variables.

The data were collapsed into two-by-two tables as follows: counselors' opinions and college grade point averages were divided into categories of 2.49 and below and 2.50 and above; school sizes were divided into population categories of 128 to 767 and 768 and above; school accreditations were divided into divisions of Standard and Basic versus Comprehensive and Accredited; and the location of the schools were divided into Educational Development Districts of 1, 2, 3, 4, 5, and 8 versus 6, 7, 9, and above. (EDD 8 was Jefferson County which supplied a large number of students to Western, and this district was grouped with the other districts in Western Kentucky.)

#### Sample Description

A profile of the sample shows a mean college grade point average of 2.1497 (male freshmen 2.0489 and female freshmen 2.2506), and the mean counselor grade point average prediction of 2.92. The 157 students in the sample represented 128 of the 194 Kentucky public feeder schools to Western for 1972-73. Of the 157 students, 45% were males and 55% were females. There were 46% male counselors and 54% female counselors in the sample. The high school enrollments ranged between 128 and 3290 students. Approximately

48% of the represented schools ranged in size from 128 to 767 students and 52% of the schools were from 768 and above. Of these schools, 49% were accredited by the Kentucky State Department of Education as Comprehensive, 35% as Standard, 15% as Basic and 1% as Accredited. Eighty-seven of the schools were in EDD's 1, 2, 3, 4, 5, 8 (the Western part of the State), and 70 of the schools were in the remaining EDD's which were located in the Central and Eastern part of the State.

#### Summary

The design and procedure of the study was completed in five steps. These steps were (1) the identification and selection of the sample, (2) the collection of data, (3) the categorization of feeder schools from which students in the sample graduated in regard to size, location, and accreditation, (4) the assignment of numerical grade point averages to the opinions expressed by the counselors, and (5) the statistical analysis of the data.

Data were contained in two-by-two tables, and Yule's Q was the main statistical technique used in the determination of the relationships between variables. Chi-square was also used to test null hypotheses when cross-analysis of data between two tables was necessary.

A profile of the sample showed a 2.15 college grade point average as the mean grade point average for the sample. The average counselor prediction was a 2.92 grade point average. There were 157 students in the study which

represented 128 of the 194 Kentucky public feeder schools to Western in 1972-73. Additionally, the data showed more female counselors working with sample students than male counselors working with sample students. The high schools ranged in size from 128 to 3290 students, and of these schools, 49% were accredited as Comprehensive, 35% as Standard, 15% as Basic, and 1% as Accredited. Eighty-seven of the schools were located in the Western part of the State and 70 were in the Central and Eastern part of Kentucky.

## CHAPTER 4

### ANALYSIS OF THE DATA

#### Introduction

Because of its reliability in analysing tables with small interior cell frequencies, Yule's Q was the main statistic used to determine the association between two variables as stated in each hypothesis. Correlations obtained by the use of Yule's Q will be higher than those obtained by the use of Pearson's Product Moment Correlation. The manner in which the statistic is computed and the curvilinear measurement of the data by Yule's Q as compared to the linear measurement of the data by the Product Moment Correlation accounts for this variation. In describing the results of Yule's Q, the concepts of association, correlation, and relationship are used synonymously.

Eleven null hypotheses involving counselors' opinions of college freshman academic success compared to various factors as sex of the counselor, sex of the student, location of high schools, school size, and accreditation of high schools were tested.

#### Findings

Hypothesis 1. Counselors' opinions are not significant predictors of freshman college academic success.

There is a very strong positive correlation between high school counselors' opinions of freshman grade point averages and actual student attainment of predicted grade point averages ( $Q = +.76$ ) which is significant at the .05 level of confidence within the confidence interval of  $Q$  from  $+.94$  to  $+.58$ . Therefore, the null hypothesis was rejected at the .05 level of confidence.

Table 1 indicates that of those students that high school counselors felt would obtain a 2.50 and above grade point average 56.7% did achieve within this range while 43.3% achieved a lower average. Counselors who predicted that their students would fall in the grade point average range of 2.49 and below were 84.9% correct as these students averaged within this range while 15.1% obtained a higher grade point average than predicted at this level.

TABLE 1  
COUNSELORS' PREDICTIONS AND ACTUAL  
FRESHMAN STUDENT PERFORMANCE

Counselor Prediction	Actual Student Performance	
	2.50 & Above	2.49 & Below
2.50 & Above . . .	56.7%*	43.3%
2.49 & Below . . .	15.1%	84.9%**

\*Fifty-six and seven tenths percent of the students predicted to perform at this level did so.

\*\*Eighty-four and nine tenths percent of the students predicted to perform at this level did so.

Hypothesis 2. There is no significant relationship between male counselors' opinions for college freshman grade point average and the actual college academic success attained.

Table 2 shows that 54.7% of the students predicted to obtain a 2.50 and above grade point average did so while 45.3% achieved at a lower grade point average level. Of those students predicted to obtain a 2.49 and below grade point average, 84.2% did so and 15.8% achieved at a higher grade point average level.

TABLE 2

MALE COUNSELORS' PREDICTIONS AND ACTUAL  
FRESHMAN STUDENT PERFORMANCE

Counselor Prediction	Actual Student Performance	
	2.50 & Above	2.49 & Below
2.50 & Above . . .	54.7%	45.3%
2.49 & Below . . .	15.8%	84.2%

There is a very strong positive association between male counselors' opinions of freshman grade point average and actual achieved freshman grade point average ( $Q = +.73$ ).  $Q$  is statistically significant at the .05 level of confidence within the limits of +1.0 and +.42. The null hypothesis was rejected at the .05 level of confidence.

Hypothesis 3. There is no significant relationship between female counselors' opinions for college freshman

grade point average and actual college grade point average achieved by the freshmen.

As revealed in table 3, female counselors were correct in 58.8% of the cases in which they predicted a student to obtain a 2.50 and above grade point average. The remaining 41.2% of the cases fell to the lower grade point average range. Of the students predicted to obtain grade point averages in the 2.49 and below range, 85.3% actually obtained grade point averages within this range while 14.7% obtained grade point averages in the higher range.

TABLE 3

FEMALE COUNSELORS' PREDICTIONS AND ACTUAL  
FRESHMAN STUDENT PERFORMANCE

Counselor Prediction	Actual Student Performance	
	2.50 & Above	2.49 & Below
2.50 & Above . . .	58.8%	41.2%
2.49 & Below . . .	14.7%	85.3%

A very strong positive correlation ( $Q = +.78$ ) between female counselors' opinions of freshman grade point average and actual grade point average attained was obtained when this hypothesis was tested. Yule's  $Q$  is statistically significant at the .05 level of confidence within the limits of  $+.99$  and  $+.57$ . The null hypothesis of no significant relationship between female counselors' opinions for college

freshman grade point average and actual college grade point average achieved by the freshmen was rejected at the .05 level of confidence.

Hypothesis 4. There is no significant relationship between male counselors' opinions of male freshman college academic success and actual academic success of male freshmen.

Of the male freshmen which male counselors forecasted would obtain a grade point average of 2.50 and above, 45% actually obtained this range while 55% scored in the lower range. Ninety-one and seven tenths percent of those students obtaining a grade point average of 2.49 and below were correctly predicted to do so by the male counselors while 8.3% of those students who were predicted to make a 2.49 and below grade point average obtained a higher range as shown in table 4.

TABLE 4

MALE COUNSELORS' PREDICTIONS AND ACTUAL MALE  
FRESHMAN STUDENT PERFORMANCE

Counselor Prediction	Actual Student Performance	
	2.50 & Above	2.49 & Below
2.50 & Above . . .	45%	55%
2.49 & Below . . .	8.3%	91.7%

An analysis of the association between male counselors' opinions of male freshman grade point average and actual

achievement of male freshman grade point average showed a very strong positive correlation ( $Q = +.80$ ) which was significant at the .05 level of confidence within the confidence limits for  $Q$  of  $+1.0$  and  $+.40$ . The null hypothesis was rejected at the .05 level of confidence.

Hypothesis 5. There is no significant relationship between male counselors' opinions of female freshman college academic success and actual college academic success of female freshmen.

Table 5 shows that of the female freshmen which male counselors predicted would make a 2.50 and above grade point average, 60.6% obtained this grade point average range while 39.4% scored lower. Predicting for a grade point average of 2.49 and below, male counselors were right for 71.4% of the cases, but 28.6% of the freshman girls achieved in the higher range.

TABLE 5  
MALE COUNSELORS' PREDICTIONS AND ACTUAL FEMALE  
FRESHMAN STUDENT PERFORMANCE

Counselor Prediction	Actual Student Performance	
	2.50 & Above	2.49 & Below
2.50 & Above . . .	60.6%	39.4%
2.49 & Below . . .	28.6%	71.4%

An analysis of the data showed the relationship between male counselors' opinions of female freshman college academic

success and actual college academic success to not be significant. A Yule's Q association of +.59 was obtained, but the confidence placed in this correlation was within the limits of +1.00 and .00. Therefore, since one of the limits within the confidence interval was .00, the null hypothesis was retained.

Hypothesis 6. There is no significant relationship between female counselors' opinions of male freshman college academic success and actual college academic success of male freshmen.

Of the male students that female counselors thought would fall in the grade point average range of 2.50 and above, 56.5% obtained grade point averages in this range while 43.5% went to the lower range. For those male students that the female counselors felt would score in the 2.49 and below grade point average range, 86.7% achieved this range while 13.3% made grade point averages in the higher range (see table 6).

TABLE 6

FEMALE COUNSELORS' PREDICTIONS AND ACTUAL MALE  
FRESHMAN STUDENT PERFORMANCE

Counselor Prediction	Actual Student Performance	
	2.50 & Above	2.49 & Below
2.50 & Above . . .	56.5%	43.5%
2.49 & Below . . .	13.3%	86.7%

There is a very strong positive association between female counselors' opinions of male freshman college grade point averages and actual grade point averages received by the male freshmen ( $Q = +.79$ ) which is significant at the .05 level of confidence within the confidence interval for  $Q$  of +1.0 and +.47. Therefore, the null hypothesis was rejected at the .05 level of confidence.

Hypothesis 7. There is no significant relationship between female counselors' opinions of female freshman college academic success and actual college academic success of female freshmen.

Analysis of the data presented in table 7 indicates that for those girls the female counselors predicted would achieve in the grade point average range of 2.50 and above, 60.7% achieved this level while 39.3% achieved in the lower grade point average range. For those female students that the female counselors felt would fall in the 2.49 and below grade point average range, 84.2% achieved at this level while 15.8% achieved at a higher level.

There is a very strong positive association between the predictive opinions of female counselors for female freshman grade point averages and the actual achievement of grade point averages by the female students ( $Q = +.78$ ) which is significant at the .05 level of confidence within the confidence limits for  $Q$  of +1.0 and +.50. The null hypothesis of no significant relationship between female counselors' opinions of female freshman college academic

success and actual college academic success of female freshmen was rejected at the .05 level of confidence.

TABLE 7

FEMALE COUNSELORS' PREDICTIONS AND ACTUAL FEMALE  
FRESHMAN STUDENT PERFORMANCE

Counselor Prediction	Actual Student Performance	
	2.50 & Above	2.49 & Below
2.50 & Above . . .	60.7%	39.3%
2.49 & Below . . .	15.8%	84.2%

Hypothesis 8. There is no significant relationship between the sex of counselors and the accuracy of their predictive opinions of freshman college academic success.

To test this hypothesis it was necessary to cross-analyse data (Chi-square values) from hypotheses two and three. Although Chi-square values are not presented in tables 2 and 3, the additive property of Chi-square was used to test the null hypothesis of no significant relationship between the sex of counselors and the accuracy of their predictive opinions of freshman college academic success.

A Chi-square value of 7.0793 was obtained for male counselors' opinions of freshman college academic success, and a value of 14.6220 was obtained for female counselors' opinions of freshman college academic success. By adding these two Chi-square values, the resultant value of 21.7913

was found to be significant at the .05 level of confidence when the Chi-square table was entered at two degrees of freedom.

A further analysis of the relationship between the sex of counselors and their predictive accuracy of college academic success is shown in table 8 in which Chi-square values are presented broken down into categories of male and female counselors and male and female students.

TABLE 8  
CHI-SQUARE VALUES OBTAINED FOR MALE AND FEMALE  
COUNSELORS' PREDICTIONS OF MALE AND  
FEMALE STUDENT PERFORMANCE

Counselor Prediction	Actual Student Performance	
	Male	Female
Male . . . . .	3.1418	1.2751
Female . . . . .	5.3955	7.5978
Additive Value . .	8.5373*	8.8729*

\*Additive values are significant at the .05 level.

In view of the significant findings obtained in the cross-analysis of data from hypotheses two and three and the findings in table 8, the null hypothesis was rejected at the .05 level of confidence.

Hypothesis 9. There is no significant association between counselors' opinions of freshman college academic success and actual college academic success based on the

size of the high school from which the student graduated.

Data for the study of this hypothesis were analysed by considering the relationship between counselors' opinions of college academic success and actual college academic success of freshmen from high schools with a student population of 128 through 767 (table 9), and by studying the same relationship between counselors' opinions of college academic success and actual college academic success of freshmen from high schools with a student population of 768 and above (table 9-1). Significant differences between the two were determined by adding the obtained Chi-square values of the two population groups and entering the Chi-square table at two degrees of freedom.

Table 9 indicates that of the students counselors in high schools of 128 through 767 population predicted would make a grade point average in the 2.50 and above range, 62.3% obtained grade point averages in this range while 37.7% obtained grade point averages in the lower range. Of the students that counselors felt would obtain grade point averages of 2.49 and below, 87% obtained this range and 13% achieved at a higher level.

There is a very strong positive relationship between the predictive opinions of counselors in schools with a student population of 128 through 767 for freshman college grade point average and actual student attainment of freshman college grade point average ( $Q = +.83$ ). This is significant at the .05 level of confidence within the limits of

+1.0 and +.63. A Chi-square value of 13.6748 was obtained which is also significant at the .05 level of confidence.

TABLE 9

COUNSELORS' PREDICTIONS AND ACTUAL PERFORMANCE OF  
COLLEGE FRESHMEN FROM HIGH SCHOOLS WITH  
A POPULATION OF 128 THROUGH 767

Counselor Prediction	Actual Student Performance	
	2.50 & Above	2.49 & Below
2.50 & Above . . .	62.3%	37.7%
2.49 & Below . . .	13%	87%

Table 9-1 shows that of those students that counselors in high schools of populations of 768 and higher predicted would achieve a grade point average of 2.50 and above, 51% did so while 49% achieved at a lower grade point average category. Of those students predicted to obtain a grade point average of 2.49 and below, 83.3% did so while 16.7% obtained a higher grade point average.

There is a substantial positive association between counselors' predictive opinions in schools of population 768 and higher for college freshman grade point average and actual college grade point average achieved by the freshmen ( $Q = +.68$ ).  $Q$  is statistically significant at the .05 level within the confidence intervals of +.98 and +.38. A Chi-square value of 8.0177 was also obtained which is significant at the .05 level of confidence.

TABLE 9-1

COUNSELORS' PREDICTIONS AND ACTUAL PERFORMANCE OF  
COLLEGE FRESHMEN FROM HIGH SCHOOLS WITH  
A POPULATION OF 768 AND HIGHER

Counselor Prediction	Actual Student Performance	
	2.50 & Above	2.49 & Below
2.50 & Above . . .	51%	49%
2.49 & Below . . .	16.7%	83.3%

By adding the Chi-square values of the two population groups an additive value of 21.6925 was obtained. The Chi-square table was entered at two degrees of freedom and the additive value was found to be significant at the .05 level of confidence. The null hypothesis of no difference between counselors' opinions of freshman grade point average and actual attainment of grade point average by the college freshmen according to high school size was rejected at the .05 level of confidence.

Hypothesis 10. There is no significant relationship between counselors' predictive opinions of freshman college academic success and actual college academic success based on the accreditation of the high school from which the student graduated.

Table 10 shows that of the students that counselors in the Comprehensive and Accredited high schools felt would obtain a 2.50 and above grade point average, 54% achieved this range while 46% obtained a lower grade point average.

Of the students forecasted to obtain a 2.49 and below grade point average, 82.8% did so while 17.2% obtained a higher grade point average.

TABLE 10

COUNSELORS' PREDICTIONS AND ACTUAL PERFORMANCE OF  
COLLEGE FRESHMEN FROM HIGH SCHOOLS ACCREDITED  
AS COMPREHENSIVE AND ACCREDITED

Counselor Prediction	Actual Student Performance	
	2.50 & Above	2.49 & Below
2.50 & Above . . .	54%	46%
2.49 & Below . . .	17.2%	82.8%

There is a very strong positive association between the predictive opinions of counselors for college freshman grade point average and actual grade point average achieved by college freshmen from high schools with an accreditation of Comprehensive and Accredited. A Yule's Q value of +.70 was obtained in determining this relationship, and it is significant at the .05 level of confidence within the limits of +.98 and +.41. A Chi-square value of 8.8224 was obtained which is also significant at the .05 level of confidence.

Table 10-1 reveals that of the students that counselors in the Standard and Basic accredited high schools predicted would obtain a 2.50 and above grade point average, 59.3% did so while 40.7% obtained a lower grade point average. Of the students predicted to obtain a 2.49 and below grade

point average, 87.5% did so while 12.5% achieved at a higher level.

TABLE 10-1

COUNSELORS' PREDICTIONS AND ACTUAL PERFORMANCE OF  
COLLEGE FRESHMEN FROM HIGH SCHOOLS ACCREDITED  
AS STANDARD AND BASIC

Counselor Prediction	Actual Student Performance	
	2.50 & Above	2.49 & Below
2.50 & Above . . .	59.3%	40.7%
2.49 & Below . . .	12.5%	87.5%

There is a very strong positive association between the predictive opinions of counselors in secondary schools which are accredited as Standard and Basic for college freshman grade point average and actual freshman grade point average achieved by the freshmen ( $Q = +.82$ ).  $Q$  is significant at the .05 level of confidence within the limits of +1.0 and +.60. A Chi-square value of 12.8564 was obtained which is also significant at the .05 level of confidence.

To test the null hypothesis of no difference between the predictive opinions of counselors in schools of different types of accreditations, the Chi-square values of the two groups were added. The Chi-square value of 8.8224 and the value of 12.8564 yielded an additive value of 21.6788 which is significant at the .05 level of confidence with two degrees of freedom. Therefore, the null hypothesis was rejected at the .05 level of confidence.

Hypothesis 11. There is no significant relationship between counselors' predictive opinions of freshman college academic success and actual college academic success of the freshmen based on the location of the high school from which the student graduated.

The high school locations were studied with respect as to which Educational Development District (EDD) the school was in. The EDD's 1, 2, 3, 4, 5, 8 make up the Western Kentucky Districts for the purpose of this study, and the EDD's 6, 7, 9 and above make up the Central and Eastern Kentucky Districts.

An analysis of the data for the Western Kentucky Districts shows a very strong positive correlation between counselors' predictive opinions of freshman grade point average and actual achievement of grade point average ( $Q = +.82$ ).  $Q$  is significant at the .05 level of confidence within the interval for  $Q$  of +1.0 and +.62. A Chi-square value of 15.6652 was obtained which is also significant at the .05 level of confidence.

Table 11 indicates that 63.3% of the students in the Western Kentucky Districts predicted to fall in the 2.50 and above grade point average range actually did achieve at this level while 36.7% scored lower. Of those students predicted to fall in the 2.49 and below grade point average range, 85.2% achieved at this level while 14.8% achieved in the higher grade point average category.

Table 11-1 indicates that of the students in the

Central and Eastern Districts predicted to achieve in the 2.50 and above grade point average range, 47.7% achieved this range while 52.3% achieved in the lower range. Of the students predicted to fall in the 2.49 and below grade point average range, 84.6% obtained this range while 15.4% averaged in the higher range.

TABLE 11

COUNSELORS' PREDICTIONS AND ACTUAL PERFORMANCE OF  
COLLEGE FRESHMEN FROM HIGH SCHOOLS IN  
EDD'S 1,2,3,4,5,8

Counselor Prediction	Actual Student Performance	
	2.50 & Above	2.49 & Below
2.50 & Above . . .	63.3%	36.7%
2.49 & Below . . .	14.8%	85.2%

TABLE 11-1

COUNSELORS' PREDICTIONS AND ACTUAL PERFORMANCE OF  
COLLEGE FRESHMEN FROM HIGH SCHOOLS IN  
EDD'S 6,7,9 AND ABOVE

Counselor Prediction	Actual Student Performance	
	2.50 & Above	2.49 & Below
2.50 & Above . . .	47.7%	52.3%
2.49 & Below . . .	15.4%	84.6%

There is a substantial positive association between counselors' predictive field opinions in the Educational

Development Districts 6, 7, 9, and above as to freshman grade point averages predicted and freshman grade point averages achieved. A Yule's Q value of  $+0.67$  was obtained which is significant at the  $.05$  level of confidence within the confidence interval for Q of  $+1.0$  and  $+0.33$ . A Chi-square value of  $6.1039$  was obtained which is also significant at the  $.05$  level of confidence.

The additive property of Chi-square was used to test the null hypothesis of no significant difference between counselors' opinions of freshman college academic success and actual college academic success of the freshmen based on the location of the high school from which the student graduated. By adding the Chi-square values of  $15.6652$  and  $6.1039$ , a total value of  $21.7691$  was obtained which is significant at the  $.05$  level of confidence with two degrees of freedom. Therefore, the null hypothesis was rejected at the  $.05$  level of confidence.

#### Summary

Eleven null hypotheses were tested which involved counselors' predictive opinions of freshman academic success versus factors such as sex of the student, location of the high school from which the student graduated, school size, accreditation of the high school and sex of the counselor.

A summary of the findings indicates that over-all counselors' predictions of academic success were strongly associated with actual success achieved by the student. A breakdown of students and counselors according to sex showed

a strong correlation for male and female counselors' predictions of academic success for male students and actual academic success achieved by male students. Female counselors' predictions correlated strongly with both male and female students' academic success while male counselors' predictions correlated strongly only for male students. No significant association was found between male counselors' predictions for female students' academic success and actual female students' achieved academic success.

A significant difference was found between counselors' opinions of freshman academic success and actual success achieved according to school size. Counselors in schools with a student population of 128 through 767 predicted more accurately than did counselors in schools with a student population of 768 and higher. Counselors in schools with a State accreditation of Standard and Basic predicted more accurately than did counselors in schools with an accreditation of Comprehensive and Accredited. Finally, counselors in the Western Kentucky Educational Development Districts predicted more accurately than did counselors in the Central and Eastern Kentucky Educational Development Districts.

## CHAPTER 5

### SUMMARY, CONCLUSIONS, AND RECOMMENDATIONS

#### Summary

It was the purpose of this study to test hypotheses relating to the association between high school counselors' predictive opinions of freshman college academic success and actual freshman college academic success achieved.

The reviewed background literature indicates that counselors are future oriented in their work with students, and that they have long been concerned with predicting future student behavior. Counselors also assist the students in college planning and help them make the transition from high school to college. In helping the students make this transition, counselors are in a position to relay to the colleges valuable information about future student behavior and achievement.

To determine if the information, i.e. counselors' opinions, relayed to the colleges was effective, certain delimitations were included in the study. The students were limited to those college freshmen who had graduated from a Kentucky high school and who entered Western Kentucky University for the first time and on a full time basis for the school year of 1972-73. A further delimitation was that the high school counselor should have expressed an

opinion as to the student's chances for success at Western on the undergraduate application form for admission.

A review of the literature showed that the most extensive investigation into counselors' predictions of college academic success was conducted by Watley in his project supported by the U.S. Office of Education. This project produced several studies which probed into the relationship of counselor prediction to counselor confidence in accuracy of predictions, counselor variability in making predictions, counselor predictive style, counselor philosophy and predictive skill, counselor predictive skill and rated counselor effectiveness, and training to improve counselor predictions. Cashen also conducted a study specifically dealing with high school counselors' predictions. She concluded that counselors did an acceptable job of predicting. Hallberg studied the effects of training on counselor prediction and concluded that specific training in prediction would not guarantee a high level of accuracy. Other related studies involved various predictive factors such as rank-in-class, high school performance, grade point averages, and scholastic achievement test scores. The reviewed literature suggested that counselors' predictions in this study should correlate in the range of .50 to .60 with academic success.

The design and procedure of the study was completed in a series of steps: (1) the selection and identification of the sample of students to be studied; (2) the collection of data; (3) the categorization of feeder schools from which

students in the sample had graduated in regard to size, location, and accreditation; (4) the assignment of numerical grade point averages to the opinions expressed by the counselors; and (5) the statistical analysis of the data. Data were obtained in two-by-two tables, and Yule's Q was the main statistic used in the determination of the relationship between variables. Chi-square was used to test null hypotheses when cross-analysis of data between two tables was necessary.

The sample profile showed an average college grade point average of 2.15 for the freshmen and an average counselor prediction of 2.92. The 157 students in the study represented 128 of the 194 Kentucky feeder public schools to Western in 1972-73. There were slightly more female counselors and students than male counselors and students in the sample. The schools ranged in size from 128 to 3290 students, and of these schools, 49% were accredited as Comprehensive, 35% as Standard, 15% as Basic, and 1% as Accredited. Eighty-seven of the schools were located in the Western part of the State and 70 were located in the Central and Eastern part of the State.

The findings indicate that counselor prediction of academic success is strongly associated with the college grade point average achieved by the student. A breakdown of students and counselors according to sex showed a strong correlation between male and female counselors' predictions of academic success for male freshmen. Female counselors'

predictions correlated strongly with both male and female students' academic success while male counselors' predictions correlated strongly only for male students. No significant association was found between male counselors' predictions of female students' academic success and actual female students' academic success achieved. Counselors in schools with a student population of 128 through 767 predicted more accurately than did counselors in schools with a student population of 768 and higher. Counselors in schools with a State accreditation of Standard and Basic predicted more accurately than did counselors in schools with an accreditation of Comprehensive and Accredited. Finally, counselors in the Western Kentucky Educational Development Districts predicted more accurately than did counselors in the Central and Eastern Kentucky Educational Development Districts.

#### Conclusions

An analysis of the data shows that generally counselors are good predictors of academic success. The Yule's Q correlations obtained were in the upper seventies to lower eighties. The reviewed literature suggested that one may expect correlations in the .50 to .60 range for predictive accuracy. However, as previously noted, the correlations obtained through the use of Yule's Q will be higher than the Product Moment correlations. In general, counselors tended to over-predict grade point averages for their students.

Other considerations should be kept in mind in the

utilization of these predictions. For example, female counselors generally predicted more accurately than male counselors, and male counselors' predictions for female students were not significant predictions of academic success. Male counselors over-predicted for female students. One possible explanation of this difference is that female counselors may be more methodical and careful in making use of the predictive data available to them and therefore make better predictions than male counselors. Perhaps, also, the "halo effect" enters into the relationship between the male counselor and the female student at this moment. Further investigation into male predictions for female students is needed.

The size of the student population in a high school seems to be a significant factor in prediction making. Counselors in the smaller schools (128 through 767 populations) were more accurate in their predictions than counselors in the larger schools (768 and higher). Closely related to student population in high schools is school accreditation. The counselors in Standard and Basic accredited schools (which are generally the smaller schools) predicted more accurately than counselors in Comprehensive and Accredited schools. Counselors in the smaller schools probably are better acquainted with their students' home and school situations, and so they are able to better determine and forecast what the student will accomplish in college. School location is another factor in prediction making. Counselors

in the Western part of the State predicted better than counselors in the Central and Eastern part of the State. The counselors in the Western part may have attended Western Kentucky University and/or are familiar with Western's academic offerings as well as the grading system. With this in mind, the counselors may be better able to forecast success at Western than counselors in the Central and Eastern part of the State who may not be as familiar with Western Kentucky University.

#### Implications for Further Research

Since there appears to be a meager amount of literature on counselors' predictions not only for academic success but for success in other areas, further investigations in this area would add to the literature in the field. A more extensive inquiry into the relationship between male counselor predictions for female students would appear to be needed. Other studies which would add knowledge to the field of counselor predictions could involve more extensive investigations into predictions by counselors versus administrators, predictions of counselors by locations, and an inquiry into the extent to which college admission and academic counselors utilize and rely on high school counselor predictions.

#### Recommendations

No generalizations of the results of this study should be made beyond the scope of the sample involved in this

investigation. This study should be repeated with a larger sample and with other colleges involved in the sample. Since this study provides indications that counselors predict fairly accurately, it is recommended that college personnel workers and academic counselors be made aware of the results of this study and that they take into consideration the findings of this and other similar studies when working with students.

APPENDICES

**APPLICATION FOR UNDERGRADUATE ADMISSION**

Western Kentucky University  
Bowling Green, Kentucky  
42101

Form A-2

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Appendix A

**INSTRUCTIONS**

1. **New Students**—(Beginning Freshmen and Transfer applicants)—Students who have never attended Western must complete Section I prior to submitting the application to their high school principal or guidance counselor. The high school official is requested to complete Section II, sign the application and mail it directly to the Office of Admissions.
2. **Former Western students**—(Readmission applicants)—Students who have attended Western but have not been enrolled for one semester or longer must complete Section I and mail the application to the Office of Admissions.
3. This application does not reserve a room in the dormitory. Please consult the Director of Housing for details regarding the housing application.
4. Students applying for admission to the Nursing or Dental Hygiene Departments must: (1) submit this application to the Office of Admissions and (2) submit a special application to the Head of the Department.
5. **MAIL APPLICATION TO:** Office of Admissions, Western Kentucky University, Bowling Green, Kentucky 42101.

Applicant Should Not Write In This Space							
Fall B.Fr.	Spring Tran.	Summer Read.	ACT Other	Res. Non-Res.	Med.Rec. Sr.Gr.	Mat. Mail	YC Reg.

**Section I — (To be completed by the student in typewriter or printed in ink)**

1. **FULL LEGAL NAME** \_\_\_\_\_  

Last
First
Middle or Maiden
2. **HOME ADDRESS** \_\_\_\_\_  

Street or Route
City
County
State
Zip Code
3. **PRESENT ADDRESS** \_\_\_\_\_  

Street or Route
City
County
State
Zip Code
4. **TELEPHONE NUMBER** \_\_\_\_\_
5. **WHEN DO YOU PLAN TO ENTER WESTERN?**  
 FALL SEMESTER, 19 \_\_\_\_\_  
 SPRING SEMESTER, 19 \_\_\_\_\_  
 SUMMER SESSION, 19 \_\_\_\_\_
6. **WHAT WILL YOUR CLASSIFICATION BE AT THE BEGINNING OF THE TERM CHECKED IN QUESTION 5?**  
 FRESHMAN (0-29 semester hours)  
 SOPHOMORE (30-59 semester hours)  
 JUNIOR (60-89 semester hours)  
 SENIOR (90 semester hours or above)
7. **SOCIAL SECURITY NUMBER** \_\_\_\_\_
8. **SEX:**  Male  Female  
**MARITAL STATUS:**  Married  Single  Divorced
9. **DATE OF BIRTH:** Month \_\_\_\_\_, Day \_\_\_\_\_, Year \_\_\_\_\_
10. **DO YOU PLAN TO ATTEND WESTERN FOR:**  
 TWO OR MORE SUCCESSIVE SEMESTERS  
 ONE SEMESTER  
 SUMMER SESSION ONLY
11. **HAVE YOU SUBMITTED AN APPLICATION FOR ADMISSION TO WESTERN PREVIOUSLY?**  
 Yes — Date \_\_\_\_\_ Semester \_\_\_\_\_ Year \_\_\_\_\_  
 No
12. **HAVE YOU EVER TAKEN CORRESPONDENCE OR EXTENSION COURSES THROUGH WESTERN?**  Yes — Date \_\_\_\_\_  
 No
13. **APPLYING FOR ADMISSION AS:**  
 BEGINNING FRESHMAN (Never attended a college or university—Applicant must complete entire application)  
 TRANSFER (Attended college or university of some type—Applicant must complete entire application)  
 TRANSIENT STUDENT (Enrolling for only one term as a visiting student—Applicant must complete only Section I)  
 READMISSION (Previously attended Western but have not been enrolled for one semester or longer—Applicant must complete only Section I)  
 PART-TIME STUDENT (Desire to register for less than 12 semester hours during the semester or less than 6 semester hours during the summer. Applicant must complete only Section I)  
 OTHER (Please explain): \_\_\_\_\_





5. Applicant ranks ( ) exactly ( ) approximately \_\_\_\_\_ in a graduating class of \_\_\_\_\_ students.

6. Applicant's approximate high school grade average is: (Circle one of the following)

A A- B+ B B- C+ C C- D+ D D-

7. To your knowledge has this student attended college? ( ) Yes ( ) No College attended \_\_\_\_\_

8. RESULTS OF STANDARDIZED TESTS

NOTE: It will not be necessary for the high school to send the ACT scores. Because of research data which ACT provides colleges and universities, scores must come directly from the National Test Center. Please list other test results below.

Name of Test	Date	Percentile	Name of Test	Date	Percentile
--------------	------	------------	--------------	------	------------

_____	_____	_____	_____	_____	_____
_____	_____	_____	_____	_____	_____
_____	_____	_____	_____	_____	_____

9. Evaluate applicant as to:

	Excellent	Good	Average	Poor	Very Poor	No Opportunity to Observe
--	-----------	------	---------	------	-----------	---------------------------

a. Ability to get along with others	_____	_____	_____	_____	_____	_____
b. Educational promise	_____	_____	_____	_____	_____	_____
c. Industry-application to study and work	_____	_____	_____	_____	_____	_____
d. Moral behavior—honesty, fairness, general conduct	_____	_____	_____	_____	_____	_____
e. Dependability	_____	_____	_____	_____	_____	_____
f. Emotional stability	_____	_____	_____	_____	_____	_____
g. Health and physical vigor	_____	_____	_____	_____	_____	_____
h. Leadership	_____	_____	_____	_____	_____	_____
i. Participation in extra-curricular activities	_____	_____	_____	_____	_____	_____

10. Please list any health factors (physical and emotional) of which the University should be aware. \_\_\_\_\_

\_\_\_\_\_

11. Other Remarks: \_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

12. It is my opinion that the applicant's chances for success at Western are:

EXCELLENT \_\_\_\_\_ GOOD \_\_\_\_\_ AVERAGE \_\_\_\_\_ POOR \_\_\_\_\_ VERY POOR \_\_\_\_\_

To the best of my knowledge, the information in Section II is accurate in every respect.

\_\_\_\_\_

Date

\_\_\_\_\_

Signature of High School Official

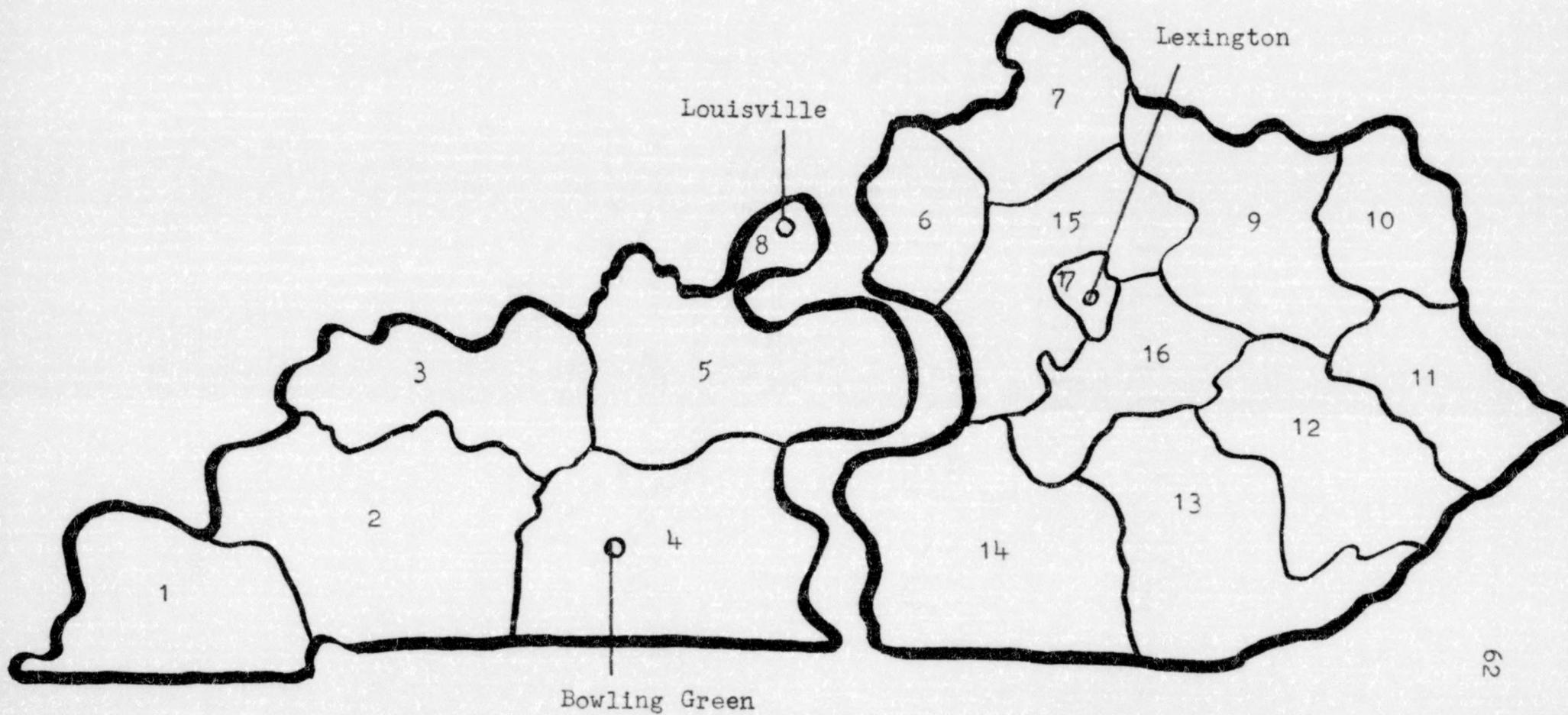
\_\_\_\_\_

Title

Mail Application To: OFFICE OF ADMISSIONS  
WESTERN KENTUCKY UNIVERSITY  
BOWLING GREEN, KENTUCKY 42101

KENTUCKY EDUCATIONAL DEVELOPMENT DISTRICTS (EDDs)

APPENDIX B



## REFERENCES CONSULTED

## REFERENCES CONSULTED

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