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A Study of the Relationships Between the Admission Criteria and Success/Failure at the Illinois Wesleyan University School of Nursing

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A STUDY OF THE RELATIONSHIPS BETWEEN THE ADMISSION CRITERIA AND SUCCESS/FAILURE AT THE ILLINOIS WESLEYAN UNIVERSITY SCHOOL OF NURSING

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INTRODUCTION

Nationwide, the competition to enroll in baccalaureate nursing programs has gradually increased in recent years due to the current number of qualified applicants greatly exceeding the number of spaces available.[1] In most universities, the result of this competition is higher admission requirements for incoming students. Wesleyan, on the other hand, has chosen to lower the admission standards.

Will lowering the criteria affect the percentage of successful nursing graduates? It is this question to which this study discusses why students drop-out of school instead of what can be done to emphasize and discover those factors which contribute to the improvement of the students chances for successfully completing college. These chances are influenced by a wide range of institutional practices: residence requirements, allocation of financial aid, availability of jobs on campus, grading practices, and recruitment and admission policies to name but a few.[2] This study chooses to analyze the latter of the above practices.

Presently, admission to the I.W.U. School of Nursing is dependent upon three factors: high school class rank, high school preparation, and college entrance test

scores. These requirements are stated in the following manner:

> Minimum high school preparation of 10 academic units within the areas of English, mathematics, foreign language and laboratory science. Minimum course preparation must include one laboratory course in biology and one in chemistry.
>
> If a student is in the top 40% of their class with an ACT composite score of 21 and with no section below a 16, the applications will be processed by the Director of Admission. All other applications being recommended for admission, will be presented to the Admission Committee.[3]

Prior to the fall of 1980, students were to be in the top 20% of their high school class with an ACT of 24 or above. Subjects in this study were admitted under the old standards. These criteria serve only as a guideline for admittance; therefore, students can be admitted who actually do not meet these standards. An All-University Admission Committee exists which considers any special or unusual applicants to the school.

Hence, students are admitted to the school of nursing on the basis of high school preparation, high school class rank, and college entrance test scores. This study chooses to review these three criteria and evaluate their effectiveness. In other words, to what extent does the meeting of the admission requirements predict a successful graduation from the I.W.U. School of Nursing?

CHAPTER 1

REVIEW OF RELATED RESEARCH

Numerous studies to determine attrition rates in nursing schools have been done in the past. Each emphasized a unique set of predictive criterion, the number in each set varying greatly. In fact, a study completed by Austin in 1972 investigated the inter-relationships between 110 variables affecting student attrition.[4] Due to confidentiality regulations and my inability to obtain additional information, my study focuses on just three variables: high school preparation, high school class rank, and college entrance test scores. These were chosen because they are also the three criteria used to evaluate and to admit a student into the school of nursing at Illinois Wesleyan University.

These three variables have also been addressed in previous research projects. A review by Taylor indicated that the most effective correlates of academic success have been intelligence tests, aptitude tests, and rank in high school class.[5] More specifically, aptitude tests were consistently related to success in nursing when success was based on academic performance. The two most popular and readily accepted aptitude tests are the American College Test (ACT) and the Scholastic Aptitude Test (SAT). Although there is a strong correlation

between ACT or SAT scores and predictive strength, the use of the ACT decision was found discriminatory against non-white candidates; therefore, these scores contribute only minimally to the prediction of success in the nation as a whole.[6] This is possibly explained by a smaller variation in test scores shown by minority students.[7]

Aside from minority influences, past studies have investigated ACT correlations to college success in great detail. A study by Wittmeyer of 119 students at the Ohio State University School of Nursing linked collegiate nursing success to the ACT math score. He found that nine of 13 students with ACT Mathematics Usage scores of 16 or below withdrew from the program. Conversely, only two of 19 students with scores of 28 or above dropped from the nursing school.[8] Below is a table which briefly summarizes his findings.[9]

	ACT Math Usage Scores						
Student Class	<16	17-19	20-21	22	23-24	25-27	≥28
Completed	4	9	13	8	11	20	17
No Completion	9	8	1	5	0	12	2
Total (N)	13	17	14	13	11	32	19

Other aspects of the ACT test results have been found to be significant. A study by Perez in 1977 found the Social Science Reading score to be predictive although

no further information concerning this study is available.[10] At this point, it is necessary to remember that a study can be made to prove whatever the researcher desires. Hence, more knowledge is required of the Social Science Reading test score before it can positively be linked to success in a collegiate nursing program.

It is interesting to note that not all studies regard high ACT scores as favorable criteria for success. As Willingham stated, "It appears that preadmission tests are mistakenly perceived as useful predictors of college performance..."[11] He proceeded to correlate success with freshman grade point averages. (Grade point averages of college freshmen are also predictive criteria. This aspect will not be addressed in this study.)

The second standard, high school grades and/or high school class rank, has also been found to have extreme predictive value. In fact, numerous studies yield tremendous amounts of evidence which points to past intellect and achievement indicing performance.[12] In a survey of nearly 300 predictive studies, Travers found that the high school cumulative grade point average was the best single predictor of college grades.[13] Investigations by Stein and Lavin corroborated his findings.[14] A 1957 review of 15 studies done by Bloom and Peters showed a median correlation of .41 between high school grades

(as predictors) and college grades.[15] Lavin voiced the correlation in a different manner. He reports that no single area of predictor variables account for as much criterion variance (30-45%) as do ability and achievement.[16]

The concept of high school grade point average can be taken one step further. Seither conducted a study during a five year period from 1972 through 1976 at a large midwestern university. The subjects were all generic students, predominately young, single females, who had entered the program immediately following high school. Of his findings, three are especially useful to this study.

1. The grade point average in the biological sciences is a valid predictor of achievement in baccalaureate nursing education.
2. The addition of the grade point average in the behavioral sciences adds increased predictive power.
3. High school percentile rank was consistently the best predictor of grade point average among data prior to admission to the baccalaureate program.[17]

The following chart shows a segment of Seither's findings.[18]

Criterion Variable	Predictor Variable	R-Square (Zero-Order)
Cumulative GPA	GPA Biological Science	.5431
	GPA Behavioral Science	.6577
	High School % Rank	.6756

A step-wise multiple regression analysis was applied to this data. In this procedure, the predictor with the highest correlation with the criterion variable is the first to enter the model. The remaining predictor variables are added to the regression equation at each step.[19]

Another way to view the accuracy of using high school grade point averages as predictors can be shown through the use of a regression equation. The general form of any regression equation that utilizes a single predictor is:

Predicted score = Constant + (weight x predictor) [20]

↑ Chances in 100 of dropping out

↑ High school grades

Following is an example of the usefullness of such an equation. If only high school grades are used, the regression equation has these values: constant=68.03; weight=-7.137. The high school grades are ranked as one of eight alternatives: D,C,C+,B-,B,B+,A-, or A. For the regression analysis, these responses are scored on an eight-point scale: D=1,...A=8.[21]

Realistically applied, Student #1 (whose C average is scored as 2) yields the following equation:

Student #1 chances in 100 of dropping out=

$$68.03 + (-7.137 \times 2) = 54$$

On the other hand, Students #2's A average receives a score of 8. Hence:

Student #2 chances in 100 of dropping out =

$$68.03 + (-7.137 \times 8) = 11$$

From the preceding examples, the value of a regression equation is demonstrated. Suppose, however, that two predictor variables are available: high school grades and SAT scores. The general form of a regression equation with two or more predictors is:

Predicted score = constant +

weight for first variable x first variable + weight for second variable x second variable

With two predictors, the values are as follows: constant = 99.42; weight for high school grades (first variable) = -5.482; weight for SAT score (second variable) = -.03944.[22]

Utilizing the previous 2 students, Student #1 had a combined verbal and mathematics score of 700. His new regression equation would be:

Chances in 100 of dropping out = 99.42 +
(-5.482 x 2) + (-.03944 x 700) = 61.

Student #2, with her high school grade score of 8 and a combined SAT score of 1300, yields the following equation:

Chances in 100 of dropping out = 99.42 +
(-5.482 x 8) + (-.03944 x 1300) = 4.

Hence, Student #1 showed 51 chances out of 100 for dropping out when only one variable was utilized. With two variables, the odds changed to 61 chances out of 100. In the other correlation, Student#2's chances for success were increased with more variables. Just from this very

simple example, it is shown that the greater the number of predictor variables, the better the outcome estimate.

The third criterion for prediction which this study shall address is high school preparation. Unlike the other two, high school preparation is not a common admission criterion. In fact, not one study in my review of the literature even addressed this topic. Mr. James Ruoti, Director of Admissions at Illinois Wesleyan University, stated this criterion is utilized as it assures the minimum preparation which is presupposed to Wesleyan's courses.[23]

Hence, the relationship between admission criteria and success have been evaluated in a brief review of the related literature. To what extent are these findings substantiated at the Illinois Wesleyan University School of Nursing?

CHAPTER 2

DESCRIPTION OF THE STUDY

Purpose

The purpose of this study was to determine to what extent the meeting of admission requirements predict a successful graduation from the Illinois Wesleyan School of Nursing. The study was designed to answer the following questions:

1. What is the attrition rate from the school of nursing?
2. What are the predictive validities of college aptitude test scores, high school percentile class rank, and high school preparation in predicting success or failure in nursing students?
3. What are the predictive validities of college aptitude test scores, high school percentile class rank, and high school preparation in predicting the amount of success which nursing students achieve as measured by grade point average?

Success in this study implies a successful graduation for the Class of 1980 and continuation in the nursing program for the Classes of 1981 and 1982. Failure simply means the inability to complete the nursing program for any reason.

Population

The subjects for this study included students in the baccalaureate nursing program at Illinois Wesleyan

University. The students came from three classes: Classes of 1980, 1981, and 1982. The population was predominantly young, single females who entered the program immediately following graduation from high school The vast majority came from white, middle class families. Basically, the subjects were all admitted as being in the top 20% of their high school class with an ACT composite score of 24 or above. This standard only served as a guideline which helps to explain those students who were admitted with lower scores or rank.

Data from 167 subjects were included in the study. The students for which partial information was unknown were dropped from that particular test. Hence, the number of subjects varied according to the particular variables under analysis.

All information used was obtained from the student's high school transcripts. Since these are strongly requested from each student before admission, knowledge on 95% of the population was obtained.

Method

Three basic types of information were obtained on each student. The first type of data dealt with the student's ACT score. Each individual score (English, Mathematics, Social Science, and Natural Science) as well as the composite score was obtained. The second type of

information was the high school percentile rank. Lastly, the third type of data dealt with high school preparation. In other words, the number of years each student took English, mathematics, foreign language, and science in high school. (If a student had taken only one semester, the number was rounded to the next higher year.)

A chi square analysis was done between each of the above variables and success in the nursing program. Chi square is a test of statistical significance which determines if a systematic relationship exists between two variables.[24] For this test, the initial assumption is made that no relationship exists between the two variables. In this study, if the significance level is $> .05$, the Conversely, if the significance level is $\leq .05$, the hypothesis is rejected. Hence, a relationship does exist between the variables. Kendall's Tau B was applied when a relationship was shown. This is a nonparametric correlation which determines just how strong the actual relationship is between the two variables.[25]

Tables were formed for each statistical analysis. They were catagorized according to both old and new admission standards. For example, ACT scores were divided in the following manner: 21(below both admission standards), 21-23 (present standards), and 24+ (old standards).

CHAPTER 3

RESULTS AND CONCLUSIONS

In regard to the first question, I found the attrition rate to be 35.9%. In other words, 36 out of 100 students who enroll do not complete the nursing program. This rate is within the normal range of 20-48% found at nursing schools across the country, although the University of Wisconsin School of Nursing did show a 19% attrition rate found in a 6 year study.[26]

The second question deals with the concept of success versus failure in the nursing school. The relationship between each of the admission criterion and this concept were measured. The results of a chi square analysis implied no part of the ACT significant in predicting success or failure. In other words, there is no relationship between ACT scores and the probability for completion of the nursing program. (See Appendix, Tables #1-5) Few scores were obtained that were less than a 21; however, there was no difference in a student's chances if she had a 21 composite score or one greater than a 24.

The analysis of class rank in conjunction with success or failure is equally unrelated if the student ranked in the 20-40th percentile of their high school class. Students in this category had an equal chance for success or failure. A difference was noted in students who came from the top 20% of their class. This category

had a 68% success rate. (See Appendix, Table #6) This rate could be expected if one believes that the same qualities which tend toward persistence, competition, and a striving to be "at the top" in high school also lend themselves to success in college.

The last set of variables placed against success and failure was that of high school preparation. Interestingly, the amount of high school English was the only variable in this set which proved to be significant. Kendall's Tau B revealed that 10% of the variation in success versus failure could be attributed to the number of years of high school English. One might conclude that the added English background aided the students reading and writing abilities, giving them an advantage over other less well-prepared students. It was fascinating that the students' mathematics, foreign language, and science backgrounds had no bearing on their success or failure in the school of nursing. (See Appendix, Tables #7-10)

The last question which this study addresses places the admission criteria against the amount of success a student achieves. It is important to note that success is measured in terms of the college cumulative grade point average. All of the subjects, whether they succeded or failed in the nursing program, were analyzed in this test. (Only 5% of the population or 9 students had a grade point average below 2.000.)

In regard to the relevance of ACT test scores, the English score was the only one which proved to be significant. Kendall's Tau C revealed that 15% of the variation in college grade point was related to the ACT test score. In other words, the higher the English score, the greater the chance for a high grade point average in college. Again the ability to read, write, and understand the English language turns out to be significant. It is interesting to note that although the ACT math score was not significant, with a level of .0586, it came very close to having a relationship with the college grade point average. No other relationships were found between ACT scores and the cumulative grade point average. (See Appendix, Tables #11-15.)

High school percentile rank was also crossed with college grade point average. No relationship was readily found between these variables. The majority of students in both the top 20% and in the 21-40% range had a grade point average of 2.510-3.000 on a 4.000 scale. Likewise, 9% of the students in the top 20% of 3.510-4.000 in comparison with 5% of those in the 21-40% range. (See Appendix, Table #16.)

The last set of variables, high school preparation, was also found to be insignificant when crossed with college grade point average. Hence, the number of years

of preparation had no impact on the future college grade point average. (See Appendix, Tables #17-20.)

What does all of this really mean? None of the past studies reviewed which linked success to ACT test scores or high school class rank apply to the Illinois Wesleyan University School of Nursing. (See Chapter 1: Review of Related Research.) Instead, what does seem to be important is the English background of the student. The number of years of high school English proved significant to the success or failure of the student. Also, the ACT English score was found to relate to the amount of success when success was based on college grade point average.

Clearly, the English background of a student can not be the only valid predictor of success in nursing school. Since the statistical tests proved the other variables invalid, what then can be considered predictors?

Since few individual criteria had an affect on success, one could investigate how the variables in various combinations interact with regard to success. I would recommend this for future studies utilizing multiple variables (as was done with grade point average and SAT scores in Chapter 1: Review of Related Research.) This concept of multi-causation in regards to success in school has been addressed in other studies. As was stated by Owen and Feldhusen:

> ...attrition is a multidimensional process which results from the interaction between the individual and the institution and which is influenced by the character of both elements.[27]

Personality is one dimension which could be explored in great detail. A study conducted at Ohio State University showed that students who withdraw tended to be more independent and venturesome.[28] The atmosphere of this school reveals a small student body of nurses placed into a curriculum largely composed of prescribed courses. Hence, membership in a small group which has a well-structured course of study may constitute an ideal educational setting for students who are less venturesome and more dependent. By contrast, this type of situation may have little appeal for the opposite type of individual.[29]

The similarities of atmospheres between the Ohio State University School of Nursing and the Illinois Wesleyan University School of Nursing are many. If the personalities of students affect their performance at Ohio State, it is logical to assume their importance at Illinois Wesleyan University. Many schools already require psychological testing prior to admission. Other schools choose to only administer personality tests (such as the 16 PF) to those individuals who appeared unlikely to finish the program.[30] This concept of personality tests as predictors of success would need

further research to verify its implications to I.W.U. but such a study could do much to explain the 35.9% attrition rate, especially if the affects of motivation could be measured.

In summary, both the amount of high school English and the ACT English score were found to be significant. Stronck affirmed this finding when he stated that the narrative skills of applicants correlated well with their future performance in a professional nursing college.[30] Hence, correlations between the admission criteria and success in the school of nursing have been analyzed.

CHAPTER 4

IMPLICATIONS TO ILLINOIS WESLEYAN UNIVERSITY

Earlier in this study, the changing of admission standards was discussed. Will this change have any impact on the outcome of the students? No! Aside from English background and scores, statistical analyses denied any significant differences between students fulfilling the lower standards and those students which fulfill the higher standards.

It is important to note that all subjects in this study were admitted under the higher standards; yet, there was enough variety between students to test both standards. This implies that a significant number of students are admitted who do not actually meet the standards. If this was true of the older, higher standards, will not students be admitted who are significantly below the lower standards? This could change the outcome of future studies conducted in a similar manner to this study.

Hence, the admission criteria of high school preparation, high school class rank, and college entrance test scores have been evaluated in terms of their affect on the success and/or failure of the students enrolled in the school of nursing. Both the high school English preparation and the ACT English score were found to be significant predictors. Aside from English scores, the

present change in the admission criteria will not affect a student's outcome. As was also evidenced, there are many variables which can affect the success of a student. Through this study, I have attempted to investigate three of these variables as to their effectiveness in the prediction of success at the Illinois Wesleyan University School of Nursing.

APPENDIX

Table #1

ACT ENGLISH SCORE IN REGARDS TO SUCCESS/FAILURE RATE				
ACT Score	%	Failure	Success	Total
< 21	11.74	5	13	18
21-23	38.75	30	52	82
24+	49.51	22	33	55
Total	100.00 N(155)	57	98	155

Mean = 23.04
Median = 23.75
Mode = 23.00

Raw Chi Square = .87398 with 2 D.F., Sig. = .6460

Table #2

ACT MATH SCORE IN REGARDS TO SUCCESS/FAILURE RATE				
ACT Score	%	Failure	Success	Total
< 21	14.8	10	13	23
21-23	10.9	10	15	25
24+	74.3	37	70	107
Total	100.0 N(155)	57	98	155

Mean = 25.329
Median = 25.500
Mode = 24.000

Raw Chi Square = .77816 with 2 D.F., Sig. = .6777

Table #3

ACT SOCIAL SCIENCE SCORE IN REGARDS TO SUCCESS/FAILURE RATE				
ACT Score	%	Failure	Success	Total
<21	9.7	5	10	15
21-23	23.8	18	32	50
24+	66.5	34	56	90
Total	100.0 N(155)	57	98	155

Mean = 14.884
Median = 25.281
Mode = 27.000

Raw Chi Square = .12826 with 2 D.F., Sig. = .9379

Table #4

ACT NATURAL SCIENCE SCORE IN REGARDS TO SUCCESS/FAILURE RATE				
ACT Score	%	Failure	Success	Total
<21	2.0	2	1	3
21-23	7.7	4	16	20
24+	90.3	51	81	132
Total	100.0 N(155)	57	98	155

Mean = 27.813
Median = 28.096
Mode = 28.000

Raw Chi Square = 3.77015 with 2 D.F., Sig. = .1518

Table #5

ACT COMPOSITE SCORE IN REGARDS TO SUCCESS/FAILURE RATE				
ACT Score	%	Failure	Success	Total
<21	3.1	3	2	5
21-23	11.2	19	29	48
24+	85.7	36	71	107
Total	100.0 N(160)	58	102	160

Mean = 25.537
Median = 25.500
Mode = 24.000

Raw Chi Square - 1.
2 D.F., Sig. = .4137

Table #6

HIGH SCHOOL % RANK IN REGARD TO SUCCESS/FAILURE RATE			
Rank (%)	Failure	Success	Total
Top 20	41	87	128
21-40	11	10	21
40+	1	0	1
Total	53	97	150

Table #7

AMOUNT OF HIGH SCHOOL ENGLISH IN REGARDS TO SUCCESS/FAILURE RATE				
# of Years	%	Failure	Success	Total
1-2	3.2	0	5	5
3	59.4	38	54	92
4+	37.4	15	43	58
Total	100.0 N(155)	53	102	155

Mean = 3.342
Median = 3.3288
Mode = 3.000

Raw Chi Square = 6.45458 with 2 D.F., Sig. = .0397

Kendall's Tau B = .09307, Sig. = .1099

Table #8

AMOUNT OF HIGH SCHOOL FOREIGN LANGUAGE IN REGARDS TO SUCCESS/FAILURE RATE				
# of Years	%	Failure	Success	Total
1-2	68.4	34	72	106
3	20.7	13	19	32
4+	10.9	6	11	17
Total	100.0 N(155)	53	102	155

Mean = 2.213
Median = 2.139
Mode = 2.000

Raw Chi Square = 2.38531 with 3 D.F., Sig. = .4964

Table #9

AMOUNT OF HIGH SCHOOL MATH IN REGARDS TO SUCCESS/FAILURE RATE				
# of Years	%	Failure	Success	Total
1-2	31.6	16	33	49
3	65.2	33	68	101
4+	13.5	6	15	21
Total	100.0 N(171)	55	116	171

Mean = 2.903
Median = 2.941
Mode = 3.000

Raw Chi Square = 1.39225 with 2 D.F., Sig. = .4985

Table #10

AMOUNT OF HIGH SCHOOL SCIENCE IN REGARDS TO SUCCESS/FAILURE RATE				
# of Years	%	Failure	Success	Total
1-2	31.6	16	33	49
3	47.7	24	50	74
4+	20.7	13	19	32
Total	100.0 N(155)	53	102	155

Mean = 2.858
Median = 2.885
Mode = 3.000

Raw Chi Square = .74192 with 2 D.F., Sig. = .6901

Table #11

ACT ENGLISH SCORE IN REGARDS TO COLLEGE GRADE POINT AVERAGE					
ACT Score	< 2.500	2.510-3.000	3.010-3.500	3.510-4.000	Total
< 21	3	10	3	1	17
21-23	20	32	23	7	82
24+	8	17	20	10	55
Total	31	59	46	18	154

Raw Chi Square = 16.73504 with 8 D.F., Sig. = .0330
Kendall's Tau C = .14909, Sig. = .0153

Table #12

ACT MATH SCORE IN REGARDS TO COLLEGE GRADE POINT AVERAGE					
ACT Score	< 2.500	2.510-3.000	3.010-3.500	3.510-4.000	Total
< 21	4	9	9	1	23
21-23	8	12	2	2	24
24+	19	38	35	15	107
Total	31	59	46	1	154

Raw Chi Square = 15.02778 with 8 D.F., Sig. = .0586

Table #13

ACT SOCIAL SCIENCE SCORE IN REGARDS TO COLLEGE GRADE POINT AVERAGE					
ACT Score	<2.500	2.510-3.000	3.010-3.500	3.510-4.000	Total
<21	3	4	6	2	15
21-23	12	23	13	2	50
24+	16	32	27	14	89
Total	31	59	46	18	124

Raw Chi Square = 7.34023 with 8 D.F., Sig. = .5004

Table #14

ACT NATURAL SCIENCE SCORE IN REGARDS TO COLLEGE GRADE POINT AVERAGE					
ACT Score	<2.500	2.510-3.000	3.101-3.500	3.510-4.000	Total
<21	0	1	1	1	3
21-23	4	9	6	1	20
24+	27	49	39	16	131
Total	31	59	46	18	154

Raw Chi Square = 3.10536 with 8 D.F., Sig. = .9276

Table #15

ACT COMPOSITE SCORE IN REGARDS TO COLLEGE GRADE POINT AVERAGE					
ACT Score	<2.500	2.510-3.000	3.010-3.500	3.510-4.000	Total
<21	1	2	1	1	5
21-23	12	22	11	2	47
24+	18	38	35	16	107
Total	31	62	47	19	159

Raw Chi Square = 9.16061 with 8 D.F., Sig. = .3289

Table #16

HIGH SCHOOL % RANK IN REGARD TO COLLEGE GRADE POINT AVERAGE					
Rank (%)	<2.500	2.510-3.000	3.010-3.500	3.510-4.000	Total
Top 20	23	55	38	11	127
21-40	7	10	2	1	20
40+	0	0	1	0	1
Total	30	65	41	12	148

Table #17

AMOUNT OF HIGH SCHOOL MATH IN REGARDS TO COLLEGE GRADE POINT AVERAGE

# Of Years	< 2.500	2.510-3.000	3.010-3.500	3.510-4.000	Total
1-2	11	12	7	2	32
3	17	40	30	13	100
4+	1	12	5	3	21
Total	29	64	42	18	153

Raw Chi Square = 10.7049 with 8 D.F., Sig. = .2190

Table #18

AMOUNT OF HIGH SCHOOL SCIENCE IN REGARDS TO COLLEGE GRADE POINT AVERAGE

# Of Years	< 2.500	2.510-3.000	3.101-3.500	3.510-4.000	Total
1-2	10	18	15	5	48
3	12	36	16	9	73
4+	7	10	11	4	32
Total	29	64	42	18	153

Raw Chi Square = 4.91207 with 8 D.F., Sig. = .7669

Table #19

AMOUNT OF HIGH SCHOOL ENGLISH IN REGARDS TO COLLEGE GRADE POINT AVERAGE					
# Of Years	< 2.500	2.510-3.000	3.010-3.500	3.510-4.000	Total
1-2	0	3	0	2	5
3	19	35	26	10	90
4+	10	26	16	6	58
Total	29	64	42	18	153

Raw Chi Square = 8.3916 with 8 D.F., Sig. = .3962

Table #20

AMOUNT OF HIGH SCHOOL FOREIGN LANGUAGE IN REGARDS TO COLLEGE GRADE POINT AVERAGE					
# Of Years	< 2.500	2.510-3.000	3.010-3.500	3.510-4.000	Total
1-2	22	47	24	15	108
3	5	10	12	4	31
4+	2	7	6	2	17
Total	29	64	42	21	156

Raw Chi Square = 9.60039 with 12 D.F., Sig. = .6510

ENDNOTES

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[3]Admission Pamphlet.

[4]Austin, p.24.

[5]Seither, p, p.28.

[6]David R. Stronck, "Predicting Student Performance from College Admission Criteria," Nursing Outlook, (September 1979), p. 604.

[7]Austin, p. 32.

[8]A. L. Wittmeyer, "Longitudinal Study of Attrition and Academic Performance in a Collegiate Nursing Program," Nursing Research, Vol. 20, (July-August 1971), p. 342.

[9]Ibid.

[10]Seither, p. 29.

[11]S. V. Owen and J. F. Feldhusen, "Effectiveness of Three Models of Multivariate Prediction of Academic Success in Nursing Education," Nursing Research, Vol. 19, (November-December 1970), p. 519.

[12]Ibid.

[13]Ibid.

[14]Ibid.

[15]Ibid.

[16]Owen and Feldhusen, p. 518.

[17]Seither, p. 34.

[18]Ibid.

[19]Ibid., p. 31.

[20]Austin, p. 27.

[21]Ibid., p.28.

[22]Ibid., p.29.

[23]James Ruoti

[24]Ronald E. Walpole, Introduction to Statistics, p. 164.

[25]Norman H. Nie et al., Statistical Package for the Social Sciences, p. 227.

[26]Harry J. Knopke,"Predicting Student Attrition in a Baccalaureate Curriculum," Nursing Research, Vol. 28, (July-August 1979), p. 224.

[27]Ibid., p. 225.

[28]Wittmeyer, p. 345.

[29]Ibid.,

[30]Ibid., p. 341.

[31]Stronck, p. 606.

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