RESOURCES AND NEEDS FOR HIGHER EDUCATION IN IOWA

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STUDY NO. 1

PROJECTION OF ENROLLMENTS FOR FIFTY-ONE PUBLIC AND PRIVATE JUNIOR AND SENIOR COLLEGES AND UNIVERSITIES IN IOWA

1960 - 1970

by

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FOREWORD

It has been said that enrollment forecasts are more significant in the trends they demonstrate than in the actual figures produced. At best, forecasts are no more than lineal projections of past performance. They can, however, be of real value if viewed in this context.

Statistical studies such as this must be based on the assumption that the period included in the forecast will be reasonably normal, and not be influenced by such unpredictables as war, depressions, recessions, etc.

The data in this report, unless otherwise specified, deal exclusively with undergraduate enrollments in the 51 four-year and two-year institutions of higher learning in Iowa. Graduate student forecasts constitute the most precarious of predictions, due largely to the fact that there were not enough total graduate students in Iowa institutions during the past decade to establish a reliable trend, nor are there reliable criteria upon which to base a prediction.

The author wishes to thank Dr. Raymond S. Butler, Chief of the Financial Section and Assistant Professor, School of Education, Indiana University, for his valuable suggestions in the handling of data contained in this study.

This is the first of a series of detailed reports prepared for this survey. The major findings and conclusions from these reports are contained in the summary report for the survey.

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TABLE OF CONTENTS

Chapter		Page
I.	INTRODUCTION	1
	Purpose and Statement of Problem	3
	Assumptions	3
	Limitations	3
II.	REVIEW OF RELATED RESEARCH	4
III.	METHODS	12
	Population Increase Gradual	12
	Iowa Births Level Off	13
	Public School Populations	14
	Migration Study	17
	Advancement Ratios Computed	20
	High School Senior Enrollments Forecast	23
	Questionnaire Used	24
	Models Employed	24
IV.	RESULTS	26
	Undergraduate Enrollments	26
	Graduate Enrollments	38A
V.	CONCLUSIONS	39
	BIBLIOGRAPHY	41

LIST OF TABLES

Table		Page
1	Total Population in Iowa Compared With Total Population in the United States, 1900-1959	13
2	Births in Iowa Compared With Births in the United States, 1929-1959	14
3	Public School Enrollment in Iowa, Grades 1-8, in 1948-1959 Through 1957-1958	15
4	Public School Enrollment in Iowa, Grades 9-12, in 1948-1949 Through 1957-1958	16
5	Student Migration - 1949 Study	18
6	Student Migration - 1958 Study	19
7	Advancement Ratios, Grades 1 to 7, for the State of Iowa, 1948-1958	21
8	Advancement Ratios, Grades 7 to 12, for the State of Iowa, 1948-1958	22
9	Twelfth Grade Enrollments, Actual and Forecast, for Public, Private and Parochial Schools in Iowa, 1948-1949 Through 1965-1966	23
10	Total Undergraduate Enrollment by Class for 51 Iowa Public and Private Institutions of Higher Education, 1948-1959	26
11	Number of Iowa College Freshmen, 1948 to 1959, and Per Cent This Number Was of Births 18 Years Earlier	27
12	Predicted Number of Iowa College Freshmen, 1960 to 1970, Assuming A Straight Line Increase of 0.6 Per Cent in the Percentage of Births Becoming College Freshmen 18 Years Later	27

Table		Page
13	Predicted Number of Iowa College Freshmen, 1960-1970, Assuming That 35.4 Per Cent of Births 18 Years Earlier Will Enroll as Freshmen	28
14	College Freshmen Enrollment in Iowa as a Per Cent of Public, Private, and Parochial High School Seniors, 1949-1959	29
15	Predicted Number of Iowa College Freshmen, 1960-1970, Assuming a Straight Line Increase of .04 Per Cent in the Percentage of High School Seniors Becoming College Freshmen	30
16	Predicted Number of Iowa College Freshmen, 1960-1970, Assuming That 49.8 Per Cent of High School Seniors Will Each Year Become College Freshmen	31
17	Advancement Ratios, College Freshmen Through Sophomores, Sophomores Through Juniors, and Juniors Through Seniors For 51 Institutions in the State of Iowa	32
18	Predicted Iowa Undergraduate College Enrollments 1960-1970, Based on College Freshmen as Forecast in Table 12	33
19	Predicted Iowa College Undergraduate Enrollments, 1960-1970, Based On College Freshmen as Forecast in Table 13	34
20	Predicted Iowa Undergraduate College Enrollments, 1960-1970, Based on College Freshmen as Predicted in Table 15	35
21	Predicted Iowa Undergraduate College Enrollments, 1960-1970, Based on College Freshmen as Predicted in Table 16	36
22	Iowa Undergraduate College Enrollment As A Percentage of Iowa College-Age Population (18- to 21-Year Olds), 1950-1959	36

Table		Page
23	Predicted Iowa Undergraduate College Enrollments, 1960-1970, Based On The Average Percentage of 18- to 21-Year-Olds, Attending College Between 1950 to 1959	37
24	Predicted Iowa Undergraduate College Enrollments, 1960-1970, Based On Straight Line Increase of 0.6 Per Cent As the Percentage of 18- to 21-Year Olds Becoming College Students	38
24A	Predicted Graduate Student Enrollment in Iowa, 1960-70, Based Upon Trends From 1949 to 1959, and the Total Enrollment for Each year 1960-70	38B
25	Predicted Iowa Public School Enrollments, Grades 1-8, Using Low Projection Factors	44
26	Predicted Iowa Public School Enrollments, Grades 9-12, Using Low Projection Factors	45
27	Predicted Iowa Public School Enrollments, Grades 1-8, Using Average Projection Factors	46
28	Predicted Iowa Public School Enrollments, Grades 9-12, Using Average Projection Factors	47
29	Predicted Iowa Public School Enrollments, Grades 1-8, Using High Projection Factors	48
30	Predicted Iowa Public School Enrollments, Grades 9-12, Using High Projection Factors	49

CHAPTER I

INTRODUCTION

College administrators, faculties, legislators, alumni, and citizens are vitally concerned with future enrollments, particularly as they pertain to long-range expansion of staff and facilities. The tidal wave of students clamoring for education beyond the high school will be of such significance in the decade ahead that no institution can afford to be complacent. It is anticipated by Keezer[1] that colleges and universities will increase their enrollments from approximately $3\frac{1}{2}$ million in 1959 to over 6 million in 1970. This is consistent with the report of the Educational Policies Commission in 1957 which stated:

> Between now and 1970 the college-age group will increase in even greater proportion than the total population. In 1955 there were over 8 million youth age 18 to 21; for 1970 the Census Bureau estimates a similar age group of more than 13 million. In 1955 this age group constituted 5.1 per cent of the total population; in 1970 it is expected to constitute 6.5 per cent of a much larger population.[2]

Ivey[3] suggests the possibility of 10 million students in institutions of higher education by 1970.

Predictions of college enrollments are usually based upon such factors as births and the resultant college-age population. A cursory examination of birth data reveals an astonishing trend. According to the United States Census data, registered births in 1940, which reflect college enrollments in the late fifties, were 2,068,000; registered births in 1958, which will reflect college enrollments in the mid-seventies, were 3,578,000, an increase of 73 per cent.[4] Thompson[5] predicts an increase in college-age population from 8,805,000 in 1950 to an estimated 16,113,000 in 1975, or an increase of 83 per cent. Thompson further predicts an increase of 159 per cent in college enrollments from 1950 to 1975 on the assumption that 37 per cent of the college-age population will enroll in American colleges and universities.

Without exception, all authorities anticipate, in varying degrees, substantial increases in college populations within the decade of the sixties.

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[1]Keezer, D. M., Financing Higher Education, 1960-70, p. 89.

[2]Educational Policies Commission, Higher Education in a Decade of Decision, pp. 28-29.

[3]Ivey, J. E., Jr., "Teach, Transmit, Transmute," Saturday Review, p. 32, February 13, 1960.

[4]Statistical Abstract of the United States, 1959, p. 52.

[5]Thompson, R. B., unpublished mimeographed data obtained from the author.

Keezer[6] reported that in 1900 approximately four per cent of the college-age population attended college; in 1940 approximately 16 per cent attended, and in 1959 approximately 39 per cent attended. He forecast that in 1970 there will be 44 per cent of the college-age population attending college.

The likelihood of increased enrollments in institutions of higher education demands detailed, long-range planning in terms of expansion of land and plant and space allocation, increased housing facilities, faculty and staff additions, and other types of adjustments made necessary by the avalanche of students. State institutions must be armed with the facts when presenting their budget requests to the legislature, while both private and public institutions need long-range programs to present to alumni, special givers, foundations, industry, and federal sources of support.

It is the responsibility of college administrators intelligently to inform their constituents of the need for outside support of higher education. The need for inspiring such insight is not, according to Glenny,[7] always fully appreciated by those with the responsibility for furthering educational programs. It is, therefore, imperative that institutions agree, at least within their own ranks, upon an enlightened program of progress, and then proceed forcefully to present their programs to their constituents.

Eddy[8] clearly saw this problem in relationship to the land-grant colleges which he predicted would be called upon to expand in size far beyond their present level. He foresaw increasing financial problems besetting private institutions and felt that, primarily because of lack of funds, private institutions would no longer be able to carry their part of the load. He felt that the burden would fall on state institutions which must, in turn, be prepared to increase their capacities to educate deserving students, particularly in such fields as science, industry, education, business, and the professions.

The Commission on Financing Higher Education[9] pondered the rather perplexing dilemma of the trend of some families to be encouraged by favorable economic circumstances to send their children to college, while widespread employment opportunities were stimulating other young people to go directly to work. These uncertainties, coupled with the fluctuations in enrollments, have, according to the Commission, complicated the financial planning of colleges and universities and have created conditions of financial stress. Such uncertainties suggested to the Commission the very great desirability of starting preparations immediately for the anticipated influx of college students.

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[6] Keezer, op. cit., p. 56.

[7] Glenny, L. B., Autonomy of Public Colleges, p. 78.

[8] Eddy, E. D., Jr., College for Our Land and Time, p. 284.

[9] Nature and Needs of Higher Education, pp. 80-81.

Purpose and Statement of Problem

Recognizing that advanced planning is necessary to meet the needs of the steadily increasing number of young people desiring a college education, the Iowa State Legislature has appropriated funds for a comprehensive study of education beyond the high school. This study will forecast enrollments in institutions of higher education for the State of Iowa through 1970. The technique used in forecasting will be included in the study in order that the basic techniques will be available for future planning. A projection of high school enrollments, as computed and included in the Appendix, will be used as the basis of several of the college and university projections.

Assumptions

In forecasting college enrollments through 1970, the following assumptions were made:

1. Iowa does not follow national trends in terms of population and birth increases. Because of this factor, studies on the national level are not sufficient for solving the problem in the State of Iowa.

2. The percentage of students from the State of Iowa who are attending college outside of the state, and the percentage of out-of-state students attending college in Iowa will counterbalance each other.

3. The number of students attending college in Iowa is directly dependent upon the number of births, high school graduates, and population.

4. It is assumed that entrance qualifications to institutions of higher education in Iowa will not be changed substantially during the period covered in this study.

5. Trends in college attendance will be based upon the years 1948 through 1957 for high school data, and 1948 through 1959 for college data.

Limitations

The following limitations were significant in this study:

1. This study will not take into account such unpredictables as war, depression, recessions, increased prosperity, etc.

2. Any mathematical projection is subject to the biases expressed in the computation and therefore must be used with caution. It should be noted that studies such as this are most accurate in the initial years of the predictions and should be recalculated at least every five years.

3. The data presented in this study represent the number of students who should, according to past trends, be attending college during the future years. These projections do not take into consideration, however, the national trend for students to attend public rather than private institutions or the possibility of limiting enrollments in public or private institutions.

CHAPTER II

REVIEW OF RELATED RESEARCH

Reviewing factors contributing to the accuracy or inaccuracy of enrollment forecasts, Parkhurst[1] observed that scientific methods of prediction are based on certain key assumptions which are neither better nor worse than the individual making them. This placed the responsibility where it belonged--with the forecaster.

The least reliable type of predictions, according to Herrick and Gottfried,[2] were in areas where substantial growth was anticipated. Because of the many uncertainties involved in forecasting, the authors concluded that enrollment predictions should always be viewed with great caution. This was particularly true in the case of long-term predictions during the latter years of the forecast.

In a study by Larson and Strevell,[3] it was found that errors in forecasts frequently resulted from inadequate basic information, i.e., from inaccurate birth data, basic data covering too short a period, or unwarranted assumptions. They cautioned that, after the first five years of a forecast, the probability of error became increasingly great. This study was based on an analysis of 150 school surveys published during the last two decades.

In discussing forecasts of future school enrollments in rapidly growing communities, Herrick[4] concluded that projection systems using relationships between births and first grade enrollments were only effective if migration rates were fairly constant. He cautioned that, where in-migration was high, several estimates, based on different factors and frequently repeated, were advisable.

Statistics can be either misleading or inaccurate with equally devastating results. An excellent example of misleading data was cited by Walters[5] in an

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[1]Parkhurst, N. M., and Suddarth, Betty, Potential Enrollment for Indiana Colleges and Universities, 1955 to 1972, p. 3.

[2]Herrick, J. H., and Gottfried, F. J., "Predicting Future Enrollments," School Executive 23:67, August, 1951.

[3]Larson, K. G., and Strevell, W. H., "How Reliable are Enrollment Forecasts," School Executive 24:68, February, 1952.

[4]Herrick, J. H., "Estimating Future School Enrollments in Rapidly Growing Communities," Ohio State University Educational Research Bulletin, p. 46, April 16, 1952.

[5]Walters, Raymond, "40 Years of U.S. Collegiate Enrollments: 1919-20 to 1959-60," School and Society 88:85-86, 91, February 27, 1960.

article summarizing his 40 years of enrollment forecasting. He pointed out that recent circulars of institutional enrollments produced by the states and published annually by the U. S. Office of Education had not recorded part-time and full-time students separately, but rather had merged both in the category of students seeking credit. He correctly observed that this type of reporting was likely to confuse the public, which tended to think of college students as those exclusively devoting themselves to academic pursuits. This sort of reporting, Walters continued, led to foggy generalizations such as the oft-heard statement that more than 3 million students were currently crowding our universities and colleges. This generalization must be qualified to read that a considerable proportion (about one fourth) were not attending school during the usual day time schedule, but, rather, occupied classrooms which otherwise would have been empty in the late afternoons, evenings, and Saturdays. Walters added that at the large urban universities the bulk of the part-time students were mature individuals holding regular, full-time jobs. The universities were extremely proud of these part-time students, and generally classified such students in a separate category.

Walters also pointed out that between 1955 and 1960 most people became aware of an important trend--a remarkable rise in the birthrate which was not forecast by experts 25 years ago. He cited the American Association of Collegiate Registrars and Admissions Officers, who were among the first to foresee the population trend in the college-age group (1953). The Association concluded that, unless the trend is completely reversed, more than double the present number would be attending institutions of higher learning within a few years.

Thompson,[6] in the registrars study cited above by Walters, suggested that, while there had been a tremendous increase in the number of births in the United States, the increase had not been evenly distributed throughout the various states. Large scale migrations, Thompson pointed out, made the problem more pronounced in some areas than others. He concluded that it is essential to begin the study of the problem by gathering birth statistics for each state.

Thompson pointed out that valid vital statistics had been available for comparatively few years in the United States. He blamed negligence and indifference on the part of physicians and midwives and ignorance of requirements on the part of the parents for the dearth of reliable birth statistics. He also mentioned that the problem was further complicated by the fact that for many years births were recorded by the location of the mother at the time of birth, rather than by the residence of the mother.

In Thompson's opinion, the factor most closely related to college enrollment was the number of college-age people in any given year.

Keezer[7] forecast that the 5 to 13 year old age group would increase 20 per cent between 1959 and 1970; the 14 to 17 age group, 44 per cent; and the 18 to 21 age group, 57 per cent. He pointed out that the trend was for students to go to publicly sponsored institutions. In 1900, approximately 61 per cent were

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[6]Thompson, R. B., College Age Population Trends, 1940-1970, pp. 2-5.

[7]Keezer, D. M., Financing Higher Education, 1960-1970, pp. 24, 56, 120.

enrolled in private institutions. This was reduced to 51 per cent in 1930 and to 42 per cent in 1959. Keezer forecast that the per cent enrolled in private institutions would be further reduced to approximately 35 per cent in 1970.

Walters[8] emphasized that the full-time students attending colleges and universities between 1955 and 1960 were born in the early 1940's and the late 1930's when birthrates were low. The rise in birthrates during the middle and late 1940's and throughout the 1950's would indicate a greatly increased collegiate enrollment, assuming, Walters cautioned, that there were no extraordinary factors such as a war or depression.

According to Thorpe,[9] the improved economic position of families, the increased availability of education with low tuition payments or scholarships, and the less tempting lure of the labor market have all contributed to the desire of the student to continue his education as far as possible. In addition, there has been pressure applied that teachers without bachelor's degrees return to complete their studies and even, in many instances, to earn advanced degrees. Industry has also encouraged many students to get a bachelor's or master's degree for increased competence in their fields. Be it for prestige, social position, earning power, social service, or merely imitation, Thorpe believed that more and more of the eligible age groups were entering universities and colleges.

Conger Jr. and Fullam,[10] who projected earned degrees to 1969-1970, noted that the number of earned degrees for 1969-1970 was approximately double that of 1957-1958. They credited the large increase to a growing college age population and an increased proportion of this population earning degrees. Of the two factors, the growing population was the most important, according to the authors. They predicted that the number earning bachelor's and first professional degrees would increase from 362,554 in 1957-1958 to 709,000 in 1969-1970; the number earning master's degrees would increase from 65,487 in 1957-1958 to 138,900 in 1969,1970; and the number earning doctor's degrees would increase from 8,938 in 1957-1958 to 18,100 in 1969-1970.

Comparing 1959-1960 enrollments with those in 1958-1959, Walters[11] showed a 3.9 per cent increase in New England, a 3.2 per cent increase in the Middle Atlantic area, a 4.3 per cent increase in the East North Central area, a 2.3 per cent increase in the West North Central area, a 4.6 per cent increase in the South Atlantic area, a 4.6 per cent increase in the East South Central area, a 3.5 per cent increase in the West South Central area, a 4.4 per cent increase in the Mountain area, and a 3.1 per cent increase in the Pacific area.

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[8]Walters, Raymond, op. cit., p. 4.

[9]Thorpe, W. L., "Probabilities and Possibilities," in Financing Higher Education, 1960-70, p. 275.

[10]Conger, L. H., Jr., and Fullam, M. G., Projection of Earned Degrees to 1969-70, pp. 1, 4.

[11]Walters, Raymond, "Statistics of Attendance in American Universities and Colleges, 1959-60," School and Society 88:8, 19, January 2, 1960.

In this same study, attention was invited to the fact that public colleges decreased their out-of-state students from 27 per cent in 1949 to 17 per cent in 1956. The private colleges, which traditionally had more out-of-state students than the public schools, maintained their 1949 level of 37 per cent out-of-state students in 1956.

Story,[12] in his highly regarded migration study of 1949-1950, stated that he had expected to find through his study some rather marked changes in the migration characteristics in the college-going population. He had assumed, for instance, that with the improvements in transportation many more students would be attending school out of their home states. Also, he based his assumption on the fact that many of the students drawing veterans benefits would find little or no barrier in the out-of-state fee differential. He was, therefore, surprised to find almost precisely the same percentages of resident and non-resident students as was observed 20 years earlier.

Thorpe[13] attempted to estimate enrollment trends for the United States by asking 11 experts to forecast enrollments between 1952 and 1965, and then averaging the estimates of these experts. The average of the estimates was an increase in college enrollments from 1,974,000 in 1952 to 2,931,000 in 1965. This represented an increase of 48 per cent.

Concerned with the seven counties surrounding Cleveland, Ohio, White[14] estimated that the number of freshmen entering colleges and universities from these areas in 1969 would be 218 per cent of the number who entered colleges and universities in 1950.

Forecasting in the State of Washington, Schmid[15] estimated an increase in enrollments in institutions of higher learning in this state of 79 per cent between 1951 and 1965. In actual figures the enrollments in Washington, according to his forecast, will increase from 33,960 in 1951 to 60,900 in 1965.

Segal and Schwarm[16] noted the existence of a long-term trend showing a continuing increase in the holding power of high schools. They concluded, following examination of retention figures in high schools in several large cities, that the retention factor is higher with girls than with boys, and that the largest number of drop-outs of both sexes occurred in the tenth grade.

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[12]Story, R. C., Residence and Migration of College Students, 1949-50, p. 1.

[13]Thorpe, E. M., "Enrollment Trends in Higher Education," School and Society 75:17, June, 1952.

[14]White, R. C., These Will Go To College.

[15]Schmid, C. F., Population and School Enrollment Trends and Forecasts, p. 31.

[16]Segal, David, and Schwarm, O. J., Retention in High Schools in Large Cities, p. 39.

Johnson,[17] concerned with the large number of drop-outs in colleges and universities, concluded that one of the factors involved was that counseling at the high school level seemed inadequate in many of the cases he examined. He suggested that a special study, both in high schools and colleges, of minority groups and their problems might uncover causes of the high drop-out rate among this segment of the school population.

Investigating sex differences and legal school entrance age, Pauley[18] pointed out that it was worth examining the possibility of raising the legal school entrance age of boys as much as three to eight months over girls. This, he felt, might reduce the difference between girls and boys in readiness at the first grade level.

Thomas,[19] in a paper entitled "An Empirical Study of High School Drop-Outs in Regard to Ten Possible Related Factors", found a high correlation between drop-outs and extra curricular activities. According to this study of 434 Chicago high school pupils, not one pupil who dropped out before the third year of high school had engaged in any extracurricular activities. Of those who did drop out, one third submitted as a reason the fact that they decided to go to work.

In a similar study, Gregg[20] concluded that factors significant to drop-outs included academic progress, sex of pupil, verbal intelligence, participation in extracurricular activities, and whether or not the student came from a broken home. Non-significant factors included racial stock, health, attendance or tardiness, personality rating, tenure of residence, and size of family. He further observed that dropping out of high school was usually a result of several factors working concomitantly.

Concerned with the problems of potential enrollment in Indiana colleges and universities, Parkhurst[21] noted that there were certain unique properties found in elementary and secondary school enrollments in Indiana. Most obvious of these was the consistent occurrence of more pupils in the first grade than were born six years earlier. In addition, only 93 per cent of the first graders advanced to the second grade. Parkhurst concluded that these discrepancies could be partially explained by the fact that the retention factor is largest in the first grade and, ergo, many children are enrolled more than one year in

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[17]Johnson, C. B., Jr., "A Proposed Technique for the Analysis of Drop-Outs at a State College," Journal of Educational Research 47:387, January, 1954.

[18]Pauley, F. R., "Sex Differences and Legal School Entrance Age," Journal of Educational Research 45:9, September, 1951.

[19]Thomas, R. J., "An Empirical Study of High School Drop-Outs in Regard to Ten Possible Related Factors," The Journal of Educational Sociology 28:18, September, 1954.

[20]Gregg, W. L., "Some Factors Which Distinguish Drop-Outs from High School Graduates," Occupations 27:459, April, 1949.

[21]Parkhurst, N. M., and Suddarth, Betty, Potential Enrollment for Indiana Colleges and Universities, 1955 to 1972, p. 21.

that grade. He also pointed out that the enrollment figures through the seventh grade exceeded the appropriate birth figures. This indicated the possibility of increased enrollment due to in-migration, or perhaps of duplication of reporting.

According to a study of present and estimated enrollments in the public schools in Columbus, Indiana,[22] undertaken by the Division of Research and Field Services, Indiana University, the trend in Columbus, similar to other comparable communities, was a slow steady rise in the school population. The group undertaking this study recommended that such studies be re-examined within 10 years of completion to allow for changing trends.

In a comprehensive study of college enrollment potential from Indiana high schools, White[23] concluded that Indiana high school enrollments for at least a five-year period following 1948 would remain fairly constant. He based his conclusions on the fact that there had been a recent leveling off in elementary school enrollments and that the state's in-migration rate had remained constant over the past 10 years.

On a national basis, Oxtoby, Mugge, and Wolfe[24] analyzed school populations in a study entitled "Enrollment and Graduation Trends: From Grade School to Ph.D." They predicted, in a short-term projection (five years or less) of school populations throughout the United States, that an increase in the number of high school graduates could be anticipated. They also forecast a long-term, gradual increase in high school populations. They, like others cited in this study, cautioned that long-term forecasts should be frequently re-examined.

Geigle,[25] in a study entitled "Interpretations of Private and Parochial School Populations", noted a gradual increase in the number of children enrolled in private and parochial schools. Over 11 per cent of the nation's children were in private or parochial schools in 1953 at the time of the study. According to this study, private and parochial school students were more likely than public school students to complete their high school education.

Discussing the forecasting of future enrollments by curve-fitting techniques, Kuang[26] noted that predicting enrollments is not strictly a statistical problem. Such factors as price index, number of home owners, births, and deaths were applied in this study to the exponential curve, the Gompertz curve, and the logistic curve. The author concluded that, when estimates of future

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[22]Indiana University, Division of Research and Field Services, "Present and Estimated Enrollments," School Survey Series 51:46, 1957.

[23]White, H. W., "A Study of College Enrollment Potential from Indiana High Schools." College and University 23:548, July, 1948.

[24]Oxtoby, Toby; Mugge, Robert; and Wolfe, Dael, "Enrollment and Graduation Trends: from Grade School to Ph.D.," School and Society 76:231, October 11, 1952.

[25]Geigle, R. C., "Interpretations of Private and Parochial School Populations," Journal of Educational Research 47:221, November, 1953.

[26]Kuang, H. P., "Forecasting Future Enrollments by Curve-Fitting Techniques," Journal of Experimental Education 23:274, March, 1955.

enrollments were to be made, curve-fitting might be one of several techniques utilized.

Cook,[27] in an analysis of factors related to withdrawal from high school prior to graduation, determined that 54.8 per cent of all withdrawals included in his study were 16 years of age at the time of withdrawal. The largest per cent of the withdrawals was in the ninth grade. He concluded that a multiplicity of factors resulted in withdrawals.

In a study entitled "A Measure of Relative Progression of the School Population of the United States", Bernhert and Ypsilantis[28] observed that students were most susceptible to the lure of the labor market at the ages of 16 and 18. On the basis of figures provided by the Social Science Research Council and the U. S. Bureau of Census, the authors concluded that there were approximately twice as many retarded students as there were advanced pupils, which had a significant effect on advancement ratios.

Iowa did not get its share of this population increase, according to data published by the National Industrial Conference Board.[29] Between 1950 and 1959, Iowa's population increased 7.2 per cent, or 188,000, as compared to a 17 per cent average increase for the country as a whole. Seven states increased their population by more than 30 per cent from April 1950 through July 1959. Nevada and Florida gained more than 70 per cent in population. In all, 21 states exceeded the 17 per cent national average. Only three states (Vermont, West Virginia, and Arkansas) declined in population. This survey included the country's two newest states, Alaska and Hawaii, as well as armed forces in the states, but excluded armed forces abroad.

In an excellent migration study by Beard and Gowan,[30] the authors pointed out that in 1949-1950 there were 12,654 students who came to Iowa from other states in the United States, while 9,571 left Iowa to attend college. Of those leaving the state to attend college, 5,730 went to school in the six surrounding states. Of those attending Iowa schools from out of state, 8,362 were from the six surrounding states. In 1956, according to Beard and Gowan, 7,731 students attended Iowa schools from the six surrounding states and 4,731 left Iowa to attend schools in these states.

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[27]Cook, E. S., Jr., "An Analysis of Factors Related to Withdrawal from High School Prior to Graduation," Journal of Educational Research 50:196, November, 1956.

[28]Bernhert, E. H., and Ypsilantis, J. H., "A Measure of Relative Progression of the School Population of the United States," Journal of Educational Research 49:262, December, 1955.

[29]National Industrial Conference Board, U.S. Population by States, Road Maps of Industry No. 1260, February 19, 1960.

[30]Beard, M. R., and Gowan, A. M., College Enrollment and Population, Iowa Higher Education Study, p. 4, 5, January, 1958.

In Thompson's[31] 1958 study, he forecast that in 1970 there would be 14,236,336 persons 18 to 21 years old in the United States as compared to 8,884,328 in 1958. Of this total, Thompson predicted that between 5,267,444 and 6,050,443 would attend college in 1970, as compared to 3,258,556 in 1958.

In the state of Iowa, Thompson predicted there would be 227,422 persons 18 to 21 years old in 1970, as compared to 154,038 in 1958. Of this total, 75,049 to 87,557 would attend college in 1970, Thompson forecasted, as compared to 51,919 in 1958.

In a study of enrollment trends beyond high school in Iowa in 1955-1970, Beard, Gowan, and McCarrel[32] predicted that by 1970 approximately 30 per cent of the college age group in Iowa will be attending Iowa colleges. They also forecast that 53 per cent of the college enrollment in Iowa will, in 1970, be attending the three state-supported colleges. The remaining 47 per cent will attend private two- and four-year colleges and public junior colleges within the state.

Lieneman[33] projected Iowa public school enrollments through 1969-1970. He forecast that elementary enrollments would reach their peak in 1966-1967 at 459,673, which represented an increase of 52,112, or 12.8 per cent, over his base year of 1957-1958; and that high school enrollments would increase steadily through 1969-1970, reaching a total of 162,815 for grades 9 through 12, which represented an increase of 28,746, or 11.9 per cent, over his base year of 1957-1958.

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[31]Thompson, R. B., Projected Numbers of Youth Beyond the High School and College Enrollments.

[32]Beard, M. R.; Gowan, A. M.; and McCarrell, Ted, Iowa Colleges Enrollment Trends, 1955-1970, Chart 11.

[33]Lieneman, W. H., Projection of Public School Enrollment in Iowa from 1956-1957 through 1969-1970, Masters Thesis, Drake University, August, 1959.

CHAPTER III

METHODS

To determine the trend of the population in Iowa compared to that in the United States, figures were obtained from the Statistical Abstract of the United States, 1959, tracing populations from 1900 to 1959. The population of Iowa as a percentage of the United States population was determined from 1900 to 1959, to determine whether Iowa was losing or gaining population when compared with the national trend. It was believed that, if Iowa's total population decreased, its school population could be expected to follow a similar trend.

Population Increase Gradual

It was noted that Iowa's population, while increasing, had not grown at as fast a rate as had the population of the United States. From 1900 to 1959, Iowa's population dropped from 2.93 per cent to 1.56 per cent of the United States population. This is shown in Table 1.

TABLE 1. TOTAL POPULATION IN IOWA COMPARED WITH TOTAL POPULATION IN THE UNITED STATES, 1900-1959

Year	Iowa population	U. S. population	Iowa population as a per cent of U. S. population
1900	2,232,000	75,995,000	2.93
1910	2,225,000	91,972,000	2.92
1920	2,404,000	105,711,000	2.27
1930	2,471,000	122,775,000	2.01
1940	2.538,000	131,669,000	1.93
1943	2,323,000	133,971,000	1.73
1944	2,246,000	132,622,000	1.69
1945	2,308,000	132,481,000	1.74
1946	2,384,000	140,054,000	1.70
1947	2,429,000	143,446,000	1.69
1948	2,487,000	146,093,000	1.70
1949	2,578,000	148,665,000	1.73
1950	2,622,000	151,734,000	1.73
1951	2,625,000	153,384,000	1.71
1952	2,639,000	155,761,000	1.69
1953	2,652,000	158,313,000	1.67
1954	2,654,000	161,191,000	1.65
1955	2,712,000	164,303,000	1.65
1956	2,752,000	167,261,000	1.64
1957	2,783,000	170,293,000	1.63
1958	2,822,000	173,260,000	1.63
1959	2,761,668	178,000,000	1.56

Iowa Births Level Off

Of particular significance was the number of births in Iowa over the past three decades. Since 1947, Iowa births have fluctuated between 60,000 and 66,200 per year. In 1951 a high of 66,123 births was reached, representing 1.81 per cent of the national births. During the past few years, Iowa births have remained fairly constant, while national births have steadily risen. In 1959, Iowa births represented only 1.54 per cent of the total births in the United States. This was a substantial decline from previous years, and was of great significance in estimating future school populations in the state. These figures are shown in Table 2.

TABLE 2. BIRTHS IN IOWA COMPARED WITH BIRTHS IN THE UNITED STATES, 1929-1959

Year	Iowa births	U. S. births	Iowa births as a per cent of U. S. births
1929	42,126	2,292,084	1.84
1930	42,733	2,329,958	1.83
1931	41,493	2,235,638	1.88
1932	40,459	2,181,463	1.85
1933	39,575	2,081,226	1.90
1934	42,463	2,167,636	1.96
1935	41,137	2,155,105	1.94
1936	42,715	2,144,790	1.99
1937	42,105	2,203,337	1.91
1938	43,221	2,286,912	1.89
1939	43,765	2,265,588	1.93
1940	44,854	2,360,399	1.90
1941	46,115	2,513,427	1.83
1942	47,671	2,808,996	1.70
1943	46,579	2,934,860	1.59
1944	45,263	2,794,800	1.62
1945	44,497	2,735,456	1.63
1946	55,743	3,288,672	1.69
1947	63,536	3,699,940	1.72
1948	60,396	3,535,068	1.71
1949	61,765	3,559,529	1.74
1950	62,550	3,554,147	1.76
1951	66,123	3,648,954	1.81
1952	64,091	3,839,490	1.67
1953	62,521	3,902,120	1.60
1954	63,069	4,017,362	1.57
1955	63,624	4,104,112	1.56
1956	63,213	4,218,035	1.50
1957	63,497	4,308,251	1.47
1958	62,173	4,204,000	1.48
1959	64,500	4,197,000	1.54

Public School Populations

Public school populations in grades 1 through 12 were furnished by the Iowa Department of Public Instruction for the school years 1948-1949 through 1957-1958. The figures furnished were end-of-year enrollments and included re-enrollments; therefore, a reduction of 5.1 per cent was made to exclude re-enrollments. This per cent of reduction was used upon the advice of the Iowa State Department of Public Instruction. The figures are reported in Tables 3 and 4.

TABLE 3. PUBLIC SCHOOL ENROLLMENT IN IOWA, GRADES 1-8, IN 1948-1949 THROUGH 1957-1958

Year	First	Second	Third	Fourth	Fifth	Sixth	Seventh	Eighth	Total grades 1-8
1948-1949	59,032	39,882	38,071	36,971	36,562	34,449	33,869	31,818	301,654
1949-1950	59,125	42,235	39,406	34,725	36,690	35,850	34,200	32,829	315,060
1950-1951	57,472	43,434	41,637	38,642	37,122	36,074	35,664	33,455	323,500
1951-1952	55,889	41,758	42,376	40,393	37,777	36,132	35,607	34,720	324,652
1952-1953	59,699	40,829	40,538	40,954	39,439	36,751	35,234	34,415	327,859
1953-1954	65,139	43,800	39,432	39,398	39,959	38,366	36,026	34,356	336,476
1954-1955	60,928	52,368	42,569	38,491	38,626	39,286	38,019	35,415	345,702
1955-1956	60,185	49,356	50,910	41,345	37,790	37,787	38,860	37,045	353,278
1956-1957	59,110	49,468	48,016	49,242	40,293	36,833	37,096	37,877	357,935
1957-1958	59,105	48,451	47,851	46,493	47,897	39,302	36,303	36,098	361,500

TABLE 4. PUBLIC SCHOOL ENROLLMENT IN IOWA, GRADES 9-12, IN 1948-1949 THROUGH 1957-1958

Year	Ninth	Tenth	Eleventh	Twelfth	Total grades 9-12	Total grades 1-12
1948-1949	29,267	27,115	25,463	23,629	105,474	407,128
1949-1950	30,335	27,636	25,151	23,557	106,679	421,739
1950-1951	31,474	28,505	25,595	23,223	108,797	432,297
1951-1952	31,752	29,389	25,949	23,362	110,452	435,104
1952-1953	32,981	29,778	27,043	23,860	113,662	441,521
1953-1954	33,461	31,143	27,414	24,932	116,950	453,426
1954-1955	33,544	31,695	28,859	25,387	119,485	465,187
1955-1956	34,587	32,049	29,333	26,673	122,642	475,920
1956-1957	36,915	32,954	29,681	26,785	126,335	484,270
1957-1958	37,369	35,215	30,545	27,355	130,484	491,984

Migration Study

A comparison of student migration in 1949[1] and in 1958[2] is shown in Tables 5 and 6. The net gain of students coming into the state of Iowa over those going out of state was 1,046 or 2.2 per cent of the total enrollment in Iowa colleges in 1958. In 1949, it was 6.9 per cent. Thus the trend of immigration of students attending colleges in Iowa is becoming less significant for the purpose of future projections. The layout of these tables was taken from the study by Beard and Gowan.[3]

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[1]Story, K. C., Residence and Migration of College Students, 1949-50.

[2]American Association of Collegiate Registrars and Admission Officers, Home State Migration of American College Students, Fall 1958.

[3]Beard, M.R., and Gowan, A.M., Iowa Higher Education Studies.

TABLE 5. STUDENT MIGRATION - 1949 STUDY*

State	Students in Iowa colleges			Iowa students in college			Gain or loss
	Public	Private	Total	Public	Private	Total	
Illinois	1672	3187	4859	157	1380	1537	+3322
Minnesota	311	744	1055	331	684	1015	+ 40
Missouri	309	317	626	407	585	992	- 366
Nebraska	360	252	612	660	735	1395	- 783
South Dakota	160	175	335	13	92	105	+ 230
Wisconsin	213	662	875	118	208	326	+ 549
Total six states	3025	5337	8362	1686	3684	5370	+2992
Total 47 states**	5326	7328	12654	3364	6207	9571	+3083
Iowa students in Iowa colleges	19153	12726	31879	19153	12726	31879	
Total in Iowa colleges	24479	20054	44533				
Total Iowa students in college				22517	18933	41450	

*U.S. Office of Education, College Student Migration, 1949.
**Plus students from outside the United States.

TABLE 6. STUDENT MIGRATION - 1958 STUDY

State	Students in Iowa colleges			Iowa students in college			Gain or loss
	Public	Private	Total	Public	Private	Total	
Illinois	1620	3268	4888	185	1186	1371	+3517
Minnesota	321	927	1248	379	719	1098	+ 150
Missouri	194	337	531	1120	537	1657	-1126
Nebraska	291	288	579	1035	858	1893	-1314
South Dakota	140	172	312	636	214	850	- 538
Wisconsin	212	795	1007	137	344	481	+ 526
Total six states	2778	5787	8565	3492	3858	7350	+1215
Total 47 states*	5179	8098	13277	5264	6142	11406	+1046
Iowa students in Iowa colleges	21236	13162	34398	21236	13162	34398	
Total in Iowa colleges	26415	21260	47675				
Total Iowa students in college						45804	

*Plus students from outside the United States.

Advancement Ratios Computed

Advancement ratios for grades 1 through 12 were computed by dividing the number of pupils in a given grade by the number of pupils in the preceding grade the preceding year. Advancement ratios for each grade from 1948-1949 to 1957-1958 were computed and averaged, as well as the high advancement ratios and the low advancement ratios during the same years. These figures are reported in Tables 7 and 8.

Of particular interest was the comparatively low advancement ratio between the first and second grades in 1948-1949. In the school year 1948-1949, only seven of every 10 first graders advanced to the second grade. However, 11 years later, eight of 10 advanced from first to second grade.

It was anticipated and subsequently confirmed that advancement ratios would drop during the high school years, grades 9 to 12. These were the grades in which pupils reached the age of 16, and were free to drop out of school. The greatest number of drop-outs occurred between the eleventh and twelfth grades, where nearly one of every 10 pupils dropped out. For reasons unknown to the author, the highest advancement ratio was between grades 6 and 7. In several other grades, however, the advancement ratio was nearly this high.

To determine the enrollment in first grade for the years 1958-1959 through 1965-1966, the births for the years 1952 through 1959 were multiplied by the advancement ratio of .894, which was the advancement ratio between the births in the year 1951 and the first grade of the school year 1957-1958. The average advancement ratio between births and first grade enrollments was not used, since this was judged not to be typical because of the peculiarly high advancement ratios between the years 1948-1949 and 1952-1953.

On the basis of the average, the high, and the low advancement ratios for each grade, three different projections were made. The 1957-1958 school year was used as the base year, and the enrollment in each grade for that year was multiplied by the appropriate advancement ratio to determine the enrollment in the succeeding grade the succeeding year. This process was continued through the year 1965-1966.

TABLE 7. ADVANCEMENT RATIOS, GRADES 1 to 7, FOR THE STATE OF IOWA, 1948-1958

Year	1 to 2	2 to 3	3 to 4	4 to 5	5 to 6	6 to 7
1948-49 TO 49-50	.71736	.98808	.98691	.99240	.98053	.99278
1949-50 to 50-51	.73461	.98584	.98061	.98800	.98321	.99481
1950-51 to 51-52	.72690	.97564	.97012	.97760	.97334	.98706
1951-52 to 52-53	.73053	.97035	.96556	.97636	.97284	.97515
1952-53 to 53-54	.73295	.96581	.97188	.97571	.97281	.98030
1953-54 to 54-55	.80393	.97190	.97613	.98039	.98314	.99095
1954-55 to 55-56	.81008	.97216	.97124	.98178	.97828	.98918
1955-56 to 56-57	.82094	.97283	.96725	.97457	.97466	.98172
1956-57 to 57-58	.81967	.96850	.96830	.97267	.97539	.98557
Average	.76633	.97448	.97311	.97994	.97713	.98639
High	.82094	.98808	.98691	.99240	.98321	.99278
Low	.71736	.96581	.96556	.97267	.97281	.97515

TABLE 8. ADVANCEMENT RATIOS, GRADES 7 to 12, FOR THE STATE OF IOWA, 1948-1958

Year	7 to 8	8 to 9	9 to 10	10 to 11	11 to 12
1948-49 to 49-50	.96929	.95338	.94426	.92752	.92516
1949-50 to 50-51	.97822	.95872	.97003	.92613	.92329
1950-51 to 51-52	.97352	.94908	.93375	.91001	.91275
1951-52 to 52-53	.96652	.94990	.93783	.92017	.91981
1952-53 to 53-54	.97506	.97226	.94429	.92061	.92195
1953-54 to 54-55	.98301	.97638	.94722	.92665	.92606
1954-55 to 55-56	.97439	.97663	.95541	.92547	.92423
1955-56 to 56-57	.97470	.99649	.95278	.92615	.91313
1956-57 to 57-58	.97309	.98657	.95393	.92688	.92160
Average	.97420	.96772	.94883	.92329	.92089
High	.98301	.99649	.97003	.92752	.92606
Low	.96652	.94908	.93375	.91001	.91275

High School Senior Enrollments Forecast

Use of low, average, and high projection ratios resulted in Table 25, Table 26, Table 27, Table 28, Table 29, and Table 30 (Appendix). The purpose of calculating three projections was to provide a choice in the selection of the senior class enrollment to be used in projecting college enrollments.

Table 9 shows public high school senior class enrollments (using high projection factors) and private high school senior class enrollments as provided by the Iowa Department of Public Instruction. The high projection factor was judged most realistic in light of the 1958-1959 unofficial enrollments provided by the Iowa State Department of Instruction, with estimates arrived at through the use of high, average, and low projection factors used in this study.

TABLE 9. TWELFTH GRADE ENROLLMENTS, ACTUAL AND FORECAST, FOR PUBLIC, PRIVATE, AND PAROCHIAL SCHOOLS IN IOWA, 1948-1949 THROUGH 1965-1966

Year	Public school enrollment		Private school enrollment		Total	
1948-1949	23,629	)	2,883		26,512	
1949-1950	23,557		2,874		26,431	
1950-1951	23,223	)	2,833		26,056	
1951-1952	23,362		2,850		26,212	
1952-1953	23,860	) Actual	2,911		26,771	
1953-1954	24,932	)	3,042		27,974	
1954-1955	25,387		3,097		28,484	
1955-1956	26,673	)	3,254		29,927	
1956-1957	26,785		3,219	)	30,004	) Actual
1957-1958	27,355	)	3,393	) Actual	30,748	)
1958-1959	29,168		3,536	)	32,704	
1959-1960	30,221		3,667		33,908	
1960-1961	31,115		3,796		34,911	
1961-1962	29,937		3,652		33,589	
1962-1963	29,866		3,644		33,510	
1963-1964	31,495		3,842		35,337	
1964-1965	38,416		4,687		43,103	
1965-1966	36,663		4,473		41,136	

The private and parochial school twelfth grade enrollments, also shown in Table 9, were provided for the years 1956-1957, 1957-1958, and 1958-1959 by the Iowa State Department of Public Instruction, the first years when the Department made these figures available. Private and parochial school twelfth grade

enrollments averaged, according to the three actual years provided, .122 per cent of public twelfth grade enrollments. This factor was used to estimate earlier twelfth grade private and parochial school enrollments and to predict future private and parochial enrollments.

Questionnaire Used

To obtain enrollments of Iowa institutions of higher education, a questionnaire and accompanying letter of explanation was sent to the presidents of all Iowa colleges, universities, and junior colleges. They were requested to furnish freshman, sophomore, junior, and senior registrations at four-year institutions from 1948 to 1959 and first and second year enrollments at junior colleges covering the same period.

Models Employed

The following models were employed to forecast enrollments in institutions of higher education in Iowa:

Model 1 represented the relationship of college undergraduate enrollment to college freshmen. It was assumed that the enrollment experiences of the period between 1948 and 1959, taken as an average, would hold true between 1960 and 1970.

Model 2 also represented the relationship of college undergraduate enrollment to college freshmen. It was assumed that 1959 was the most significant year on which to base a forecast, since it was the most current year in which actual enrollment data were available.

Model 3 represented the relationship of college undergraduate enrollment to high school seniors in the same year. It was assumed that the enrollment experiences of the period between 1948 and 1959, taken as an average, would hold true between 1960 and 1970.

Model 4 also represented the relationship of college undergraduate enrollment to high school seniors in the same year. It was assumed that 1959 was the most significant year on which to base a forecast, since it was the most current year in which actual enrollment data were available.

Model 5 represented the relationship between college undergraduate enrollment and the number of 18- to 21-year-olds in the same year. It was assumed that the enrollment experiences of the period between 1948 and 1959, taken as an average, would hold true between 1960 and 1970.

Model 6 also represented the relationship between college undergraduate enrollment and the number of 18 to 21 year olds in the same year. It was assumed that 1959 was the most significant year on which to base a forecast, since it was the most current year in which actual enrollment data were available.

Through the use of these models, a variety of forecasts resulted. It was not the purpose of this study to determine which projection was "true," but rather to provide data useful to those experienced in the field of enrollment, with its economic and social implications, through which they could select the model which was most pertinent to their particular interests. Individual institutions wishing to apply the criteria used in this study must keep in mind that state and national trends are taken into consideration in the study, but that local trends are not. Individual colleges must base their own predictions upon the situations which are significant to their own institutions.

CHAPTER IV

RESULTS

Of 51 institutions of higher education in Iowa, 50 completed the questionnaire, reporting registration by class from 1948 through 1959. These data are tabulated in Table 10.

TABLE 10. TOTAL UNDERGRADUATE ENROLLMENT BY CLASS FOR 51 IOWA PUBLIC AND PRIVATE INSTITUTIONS OF HIGHER EDUCATION, 1948-1959

Date	Freshmen	Sophomores	Juniors	Seniors	Total
1948	13,618	10,949	9,259	6,627	40,453
1949	12,225	9,489	7,644	7,948	37,306
1950	10,826	8,206	6,505	6,483	32,020
1951	10,056	7,108	5,241	5,209	27,614
1952	11,307	7,037	4,711	4,625	27,680
1953	11,869	7,846	4,841	4,150	28,706
1954	13,593	8,517	5,398	4,322	31,830
1955	14,834	10,207	6,475	4,832	36,348
1956	15,223	10,761	7,484	5,652	39,120
1957	15,062	10,821	7,870	6,543	40,296
1958	15,903	10,673	7,916	6,963	41,455
1959	16,304	11,105	8,032	7,094	42,535

Births in Iowa from 1930 to 1941 were equated to college freshman enrollments 18 years later to determine the per cent of births becoming freshmen. The per cent of births becoming college freshmen 18 years later ranged from a low of 25.41 per cent in 1951 to a high of 35.46 per cent in 1958. These results are shown in Table 11.

TABLE 11. NUMBER OF IOWA COLLEGE FRESHMEN, 1948 TO 1959, AND PER CENT THIS NUMBER WAS OF BIRTHS 18 YEARS EARLIER

Year of Birth	Births 18 Years Before	Number who became college freshmen 18 years later	Per cent who became college freshmen 18 years later
1930	42,733	13,611	31.87
1931	41,493	12,225	29.46
1932	40,459	10,826	26.76
1933	39,575	10,056	25.41
1934	42,463	11,307	26.63
1935	41,137	11,869	28.85
1936	42,715	13,593	31.82
1937	42,105	14,834	35.23
1938	43,221	15,223	35.22
1939	43,765	15,062	34.42
1940	44,854	15,903	35.46
1941	46,115	16,304	35.36

To provide estimated freshman class enrollments, 1960-1970, births in Iowa from 1942 to 1952 were multiplied by a factor beginning with 36 per cent in 1960 and progressing to 42 per cent in 1970. The factor was determined by adding 0.6 per cent each year to the 35.4 per cent, the latter figure representing the per cent of births in 1941 becoming freshmen 18 years later in 1959. The 0.6 per cent increment represented the average annual increase between 1949 and 1959 in the per cent of births entering college. Estimates ranged from 16,820 in 1963 to 27,375 in 1969. This is shown in Table 12.

TABLE 12. PREDICTED NUMBER OF IOWA COLLEGE FRESHMEN, 1960 to 1970, ASSUMING A STRAIGHT LINE INCREASE OF 0.6 PER CENT IN THE PERCENTAGE OF BIRTHS BECOMING COLLEGE FRESHMEN 18 YEARS LATER

Year of Birth	Births 18 Years Before	Estimated per cent of births becoming college freshmen	Estimated college freshman enrollment
1960	47,671	36	17,162
1961	46,579	36.6	17,048
1962	45,263	37.2	16,838
1963	44,497	37.8	16,820
1964	55,743	38.4	21,405
1965	63,536	39	24,779
1966	60,396	39.6	23,917
1967	61,765	40.2	24,830
1968	62,550	40.8	25,520
1969	66,123	41.4	27,375
1970	64,091	42	26,918

Using birth data similar to that in Table 12 (births 1942 through 1952,) a more conservative estimate of freshman enrollments was obtained by multiplying the births by a constant factor of 35.4. This latter figure represented the per cent of births in 1941 who entered Iowa colleges as freshmen 18 years later in 1959 and assumed that the per cent would remain constant. Using this formula, estimates ranged from 15,752 freshmen in 1963 to 23,408 freshmen in 1969. This is shown in Table 13.

TABLE 13. PREDICTED NUMBER OF IOWA COLLEGE FRESHMEN, 1960-1970, ASSUMING THAT 35.4 PER CENT OF BIRTHS 18 YEARS EARLIER WILL ENROLL AS FRESHMEN

Year	Births	Estimated per cent of births becoming college freshmen	Estimated college freshman enrollment
1960	47,671	35.4	16,876
1961	46,579	35.4	16,489
1962	45,263	35.4	16,023
1963	44,497	35.4	15,752
1964	55,743	35.4	19,733
1965	63,536	35.4	22,492
1966	60,396	35.4	21,380
1967	61,765	35.4	21,865
1968	62,550	35.4	22,143
1969	66,123	35.4	23,408
1970	64,091	35.4	22,688

The percentage of public, private, and parochial high school seniors was then equated to the number of college freshmen in Iowa to determine the per cent of seniors becoming freshmen. The base period was from 1949 to 1959 inclusive. Since the high school senior count was taken at the end of the school year and the college freshmen count taken in the beginning of the fall semester, the same year was used in each case in relating high school seniors and college freshmen. The per cent of high school seniors becoming college freshmen ranged from 38.59 per cent in 1951 to 51.72 per cent in 1958. This is shown in Table 14.

TABLE 14. COLLEGE FRESHMEN ENROLLMENT IN IOWA EXPRESSED AS PERCENTAGE OF PUBLIC, PRIVATE, AND PAROCHIAL HIGH SCHOOL SENIORS, 1949-1959*

Year	(1) Number of high school seniors in Iowa	(2) Number of college freshmen in Iowa	Column 2 divided by Column 1
1949	26,512	12,225	46.11%
1950	26,431	10,826	40.96
1951	26,056	10,056	38.59
1952	26,212	11,307	43.14
1953	26,771	11,869	44.34
1954	27,974	13,593	48.59
1955	28,484	14,834	52.08
1956	29,927	15,223	50.87
1957	30,004	15,062	50.20
1958	30,748	15,903	51.72
1959	32,704	16,304	49.85

* This is the number of freshmen for these years reported by Iowa colleges for this survey. The number of college freshmen for any one year, of course, includes graduates of Iowa high schools not only from the previous spring, but also late starters from previous graduation classes. It also includes high school graduates from other states.

Another method of forecasting freshmen enrollment, 1960 to 1970, involved multiplying the estimated number of high school seniors by a factor beginning with 50.2 in 1960 and progressing to 54.2 in 1970. This factor, which represented the anticipated per cent of high school freshmen who would continue on to college, was determined by adding 0.4 per cent each year to 49.8 per cent, the latter figure representing the per cent of high school seniors becoming college freshmen in 1959. The 0.4 per cent represented the average annual increase between 1948 and 1959 in the percent of high school seniors becoming college freshmen. Using this method, estimates ranged from 17,130 freshmen in 1962 to 22,685 freshmen in 1969. This is shown in Table 15.

TABLE 15. PREDICTED NUMBER OF IOWA COLLEGE FRESHMEN, 1960-1970, ASSUMING A STRAIGHT LINE INCREASE OF .04 PER CENT IN THE PERCENTAGE OF HIGH SCHOOL SENIORS BECOMING COLLEGE FRESHMEN

Year	Estimated number of high school seniors	Estimated per cent of high school seniors becoming college freshmen	Estimated college freshman enrollment
1960	33,908	50.2	17,022
1961	34,911	50.6	17,665
1962	33,589	51.0	17,130
1963	33,510	51.4	17,224
1964	35,337	51.8	18,305
1965	43,103	52.2	22,500
1966	41,136	52.6	21,638
1967	41,792	53.0	22,150
1968	41,365	53.4	22,089
1969	42,165	53.8	22,685
1970	40,583	54.2	21,996

Based on the estimated number of high school seniors, 1960 through 1970, a more conservative estimate of freshman enrollments was obtained by multiplying the births by a constant factor of 49.8. This latter figure represented the per cent of high school seniors entering college in 1959, and assumed that this per cent would remain constant. Estimates, using this formula, ranged from 16,688 freshmen in 1963 to 20,998 freshmen in 1969. This is shown in Table 16.

TABLE 16. PREDICTED NUMBER OF IOWA COLLEGE FRESHMEN, 1960-1970, ASSUMING THAT 49.8 PER CENT OF HIGH SCHOOL SENIORS WILL EACH YEAR BECOME COLLEGE FRESHMEN

Year	Estimated number of high school seniors	Estimated per cent of high school seniors becoming freshmen	Estimated freshman enrollment
1960	33,908	49.8	16,886
1961	34,911	49.8	17,386
1962	33,589	49.8	16,727
1963	33,510	49.8	16,688
1964	35,337	49.8	17,598
1965	43,103	49.8	21,465
1966	41,136	49.8	20,486
1967	41,792	49.8	20,812
1968	41,365	49.8	20,600
1969	42,165	49.8	20,998
1970	40,583	49.8	20,210

Using undergraduate enrollments from 1948 to 1959, advancement ratios from freshmen to sophomores, from sophomores to juniors, and from juniors to seniors in Iowa colleges were computed. Next, the average advancement ratio, 1948 to 1949, was computed. These computations showed that, on an average, 70.3 per cent of the college freshmen in Iowa advanced to sophomores, 70.6 per cent of the sophomores advanced to juniors, and 87.2 per cent of the juniors advanced to seniors. The advancement from sophomores to juniors would have been higher were it not for the large number of junior college students who completed their education after their second year. These results are shown in Table 17.

TABLE 17. ADVANCEMENT RATIOS, COLLEGE FRESHMEN THROUGH SOPHOMORES, SOPHOMORES THROUGH JUNIORS, AND JUNIORS THROUGH SENIORS FOR 51 INSTITUTIONS IN THE STATE OF IOWA

Year	Freshmen to sophomores	Sophomores to juniors	Juniors to seniors
1948 to 1949	.69680	.69815	.85841
1949 to 1950	.67125	.68553	.84812
1950 to 1951	.65657	.63868	.80077
1951 to 1952	.69978	.66277	.88247
1952 to 1953	.69391	.68794	.88092
1953 to 1954	.71758	.68799	.89279
1954 to 1955	.75090	.76024	.89515
1955 to 1956	.72543	.73322	.87290
1956 to 1957	.71083	.73134	.89426
1957 to 1958	.70860	.73154	.88475
1958 to 1959	.69830	.75255	.89616
Average	.70272	.70636	.87152

Six different predictions of total college enrollments, 1960 to 1970, were computed (model 1 through 6). Each forecast was based on different assumptions, and could prove to be the most accurate if certain factors were present.

The first forecast was based on college freshmen, assuming a straight line increase of 7.06 per cent in the percentage of births becoming college freshmen 18 years later. (See Table 12.) The freshman enrollments were multiplied by the appropriate advancement ratio to predict sophomore, junior, and senior college enrollments, and these were combined to produce total enrollments.

The assumption necessary to the accuracy of this prediction was that the enrollment experiences of the period between 1948 and 1959, taken as an average, would hold true between 1960 and 1970. Each of the 12 base years involved was given equal weight. It was also assumed that there was a close relationship between the number of college freshmen and the number of births 18 years earlier.

Using this technique, total enrollments ranged from 43,463 college students in Iowa in 1960 to 69,563 college students in 1970. This is shown in Table 18.

TABLE 18. PREDICTED IOWA UNDERGRADUATE COLLEGE ENROLLMENTS 1960-1970, BASED ON COLLEGE FRESHMEN AS FORECAST IN TABLE 12

Year	Freshmen	Sophomores	Juniors	Seniors	Total
1959	16,304	11,105	8,032	7,094	42,535
1960	17,162	11,457	7,844	7,000	43,463
1961	17,048	12,060	7,874	6,836	43,818
1962	16,838	11,980	8,519	6,862	44,199
1963	16,820	11,832	8,462	7,424	44,538
1964	21,405	11,820	8,358	7,375	48,958
1965	24,779	15,042	8,349	7,284	55,454
1966	23,9 17	17,413	10,625	7,276	59,231
1967	24,830	16,807	12,300	9,260	63,197
1968	25,520	17,449	11,872	10,720	65,561
1969	27,375	17,933	12,325	10,347	67,980
1970	26,918	19,237	12,667	10,741	69,563

The second forecast was based on college freshmen assuming that 35.4 per cent of births 18 years earlier will enroll as freshmen. (See Table 13.) Sophomore, junior, and senior enrollments were computed by multiplying the freshmen enrollments by the appropriate advancement ratio. These were combined to produce total college enrollments, 1960 through 1970.

The assumption here was that 1959 was the most significant year on which to base a forecast, since it was the most current year in which actual enrollment data were available. It was further assumed that there was a close relationship between college freshmen in any given year and the number of births 18 years earlier. If these assumptions were correct, then the prediction using them as a base would be the most accurate.

Grounded on these assumptions, college enrollments varied from a low of 42,498 in 1963 to a high of 59,587 in 1970. This is shown in Table 19.

TABLE 19. PREDICTED IOWA COLLEGE UNDERGRADUATE ENROLLMENTS, 1960-1970, BASED ON COLLEGE FRESHMEN AS FORECAST IN TABLE 13

Year	Freshmen	Sophomores	Juniors	Seniors	Total
1959	16,364	11,105	8,032	7,094	42,535
1960	16,876	11,457	7,844	7,000	43,177
1961	16,489	11,859	8,093	6,836	43,277
1962	16,023	11,587	8,377	7,053	43,040
1963	15,752	11,260	8,185	7,301	42,498
1964	19,733	11,069	7,954	7,133	45,889
1965	22,492	13,867	7,819	6,932	51,110
1966	21,380	15,806	9,795	6,814	53,795
1967	21,865	15,024	11,165	8,537	56,592
1968	22,143	15,365	10,612	9,731	57,851
1969	23,408	15,560	10,853	9,249	59,070
1970	22,688	16,449	10,991	9,459	59,587

The third forecast was based on college freshmen, assuming a straight line increase of .04 per cent in the percentage of high school seniors becoming college freshmen. (See Table 15.) By multiplying freshmen enrollments by the appropriate advancement ratio, it was possible to predict sophomore, junior, and senior college enrollments. These combined to produce total enrollments.

The assumptions used in this prediction were that the number of college freshmen in any given year bore a close relationship to the number of high school seniors in the same year, and that enrollment experiences between 1948 and 1959, taken as an average, would continue to hold true between 1960 and 1970. Each of the 12 base years involved was given equal weight.

Based on these assumptions, total enrollments ranged from 43,323 college students in 1960 to 58,561 students in 1969. This is shown in Table 20.

TABLE 20. PREDICTED IOWA UNDERGRADUATE COLLEGE ENROLLMENTS, 1960-1970, BASED ON COLLEGE FRESHMEN AS PREDICTED IN TABLE 15

Year	Freshmen	Sophomores	Juniors	Seniors	Total
1959	16,304	11,105	8,032	7,094	42,535
1960	17,022	11,457	7,844	7,000	43,323
1961	17,665	11,962	8,093	6,836	44,556
1962	17,130	12,414	8,449	7,053	45,046
1963	17,224	12,038	8,769	7,363	45,394
1964	18,305	12,104	8,503	7,642	46,554
1965	22,500	12,863	8,550	7,411	51,324
1966	21,638	15,811	9,086	7,451	53,986
1967	22,150	15,205	11,168	7,919	56,442
1968	22,089	15,565	10,740	9,733	58,127
1969	22,685	15,522	10,994	9,360	58,561
1970	21,996	15,941	10,964	9,581	58,482

The fourth forecast was grounded on the assumption that 49.8 per cent of the high school seniors will enter college as freshmen. (See Table 16.) Sophomore, junior, and senior enrollments were computed by multiplying the freshman enrollments by the appropriate advancement ratio. These were combined to produce total college enrollments, 1960 through 1970.

The assumptions here were that 1959 was the most significant year on which to base the forecasts, since it was the most current year in which actual enrollment data were available, and that there was a close relationship between the number of high school seniors and the size of the college freshman class. This is shown in Table 21.

TABLE 21. PREDICTED IOWA UNDERGRADUATE COLLEGE ENROLLMENTS, 1960-1970, BASED ON COLLEGE FRESHMEN AS PREDICTED IN TABLE 16

Year	Freshmen	Sophomores	Juniors	Seniors	Total
1959	16,304	11,105	8,032	7,094	42,535
1960	16,886	11,457	7,844	7,000	43,187
1961	17,386	11,866	8,093	6,836	44,181
1962	16,727	12,217	8,382	7,053	44,379
1963	16,688	11,754	8,630	7,305	44,377
1964	17,598	11,727	8,303	7,521	45,149
1965	21,465	12,366	8,283	7,236	49,350
1966	20,486	15,084	8,735	7,219	51,524
1967	20,812	14,396	10,655	7,613	53,476
1968	20,600	14,625	10,169	9,286	54,680
1969	20,998	14,476	10,331	8,862	54,667
1970	20,210	14,756	10,225	9,004	54,195

In order to compute the fifth and sixth predictions of total Iowa undergraduate enrollments, it was necessary to determine the per cent of 18- to 21-year-olds who were enrolled in colleges. This was done in Table 22, using the years 1950 through 1959 as the base years. The per cent of 18- to 21-year-olds enrolled in college varied from 18.94 in 1951 to 26.99 in 1959.

TABLE 22. IOWA UNDERGRADUATE COLLEGE ENROLLMENT AS A PERCENTAGE OF IOWA COLLEGE-AGE POPULATION (18- TO 21-YEAR-OLDS), 1950-1959

Year	Total 18- to* 21-year-olds	College enrollment	Per cent of 18- to 21-year-olds
1950	148,055	32,020	21.63
1951	145,828	27,614	18.94
1952	145,725	27,680	18.99
1953	144,909	28,706	19.81
1954	146,858	31,830	21.67
1955	149,166	36,348	24.37
1956	149,795	39,120	26.12
1957	152,176	40,296	26.48
1958	154,038	41,455	26.91
1959	157,614	42,535	26.99

*Figures taken from unpublished report by Ronald B. Thompson, 1958.

The fifth forecast of total undergraduate college enrollments was computed by multiplying the total estimated number of 18- to 21-year-olds between 1960 and 1970 by 23.2, the latter figure representing the average per cent of 18- to 21-year-olds in college between 1950 and 1959.

Here it was assumed that there was a close relationship between past experience and future experience in regard to the percentage of 18- to 21-year-olds becoming college students. It was also assumed that circumstances affecting enrollments between 1960 and 1970 would be about the same as between 1950 and 1959, and that therefore the average per cent of 18- to 21-year-olds in college during the fifties would prevail in the sixties.

When based on these assumptions, the college undergraduate enrollment forecast varied from a low of 37,646 in 1960 to 52,767 in 1970. This is shown in Table 23.

TABLE 23. PREDICTED IOWA UNDERGRADUATE COLLEGE ENROLLMENTS, 1960-1970, BASED ON THE AVERAGE PERCENTAGE OF 18- TO 21-YEAR-OLDS ATTENDING COLLEGE BETWEEN 1950 AND 1959

Year	Total 18- to* 21-year-olds	Estimated per cent of 18- to 21-year-olds attending college	College enrollment
1960	162,268	23.2	37,646
1961	165,592	23.2	38,417
1962	167,041	23.2	38,754
1963	166,054	23.2	38,525
1964	173,280	23.2	40,200
1965	187,699	23.2	43,546
1966	199,431	23.2	46,268
1967	214,542	23.2	49,774
1968	221,472	23.2	51,382
1969	224,506	23.2	52,085
1970	227,422	23.2	52,767

*Figures taken from unpublished report by Ronald B. Thompson, 1958.

The sixth forecast was based on the assumption that the per cent of 18- to 21-year-olds in college would increase each year by 0.6 per cent, the average per cent per annum increase between 1950 and 1959. The increment of 0.6 per cent was added annually to the base of 27 per cent, the per cent of 18- to 21-year-olds in college in 1959. It was anticipated in this procedure that 33.6 per cent of all 18- to 21-year-olds in Iowa would be attending college in the state in 1970.

This forecast was based on the additional assumption that 1959 was the most significant year on which to base a forecast, since it was the most current year in which actual enrollment data were available. It was also assumed that there was a close relationship between past experience and future experience in regard to the percentage of 18- to 21-year-olds who would become college students.

When based on these assumptions, undergraduate college enrollments in Iowa will range from 44,786 in 1960 to a high of 76,414 in 1970. This is shown in Table 24.

TABLE 24. PREDICTED IOWA UNDERGRADUATE COLLEGE ENROLLMENTS, 1960-1970, BASED ON STRAIGHT LINE INCREASE OF 0.6 PER CENT AS THE PERCENTAGE OF 18- TO 21-YEAR-OLDS BECOMING COLLEGE STUDENTS

Year	Total 18- to* 21-year-olds	Estimated per cent of 18- to 21-year-olds attending college	College enrollment
1960	162,268	27.6	44,786
1961	165,592	28.2	46,697
1962	167,041	28.8	48,108
1963	166,054	29.4	48,820
1964	173,280	30.0	51,984
1965	187,699	30.6	57,436
1966	199,431	31.2	62,222
1967	214,542	31.8	68,224
1968	221,472	32.4	71,757
1969	224,506	33.0	74,087
1970	227,422	33.6	76,414

*Figures taken from unpublished report by Ronald B. Thompson, 1958.

Graduate Enrollments

Table 25 shows predicted undergraduate, graduate and total enrollment of full-time college students in all Iowa colleges and universities for each year from 1960 to 1970.

Predictions for undergraduate enrollment are more reliable than for graduate students. A single criterion for predicting graduate enrollment was used, namely, the average annual percentage of increase for the ten years between 1949 and 1959. The average annual increase for those years was 7.5 per cent.

There were 3,921 graduate students in Iowa's colleges in 1959. Using that figure as a base, the enrollment for each of the years to 1970 was predicted by adding 7.5 per cent to the previous year. The grand total increase between 1960 and 1970, according to these predictions, will be 73.6 per cent.

There are many factors that may influence the graduate enrollment and cause sharp variance with the predictions. For example, the rapid increase in college enrollments generally will open up new opportunities for college teaching and administrative work both of which will require graduate study. Moreover, this decade may witness a continued acceleration of the employment of men and women holding advanced degrees in business, industry, government, and various research activities.

If the five institutions offering graduate work follow the same increase as indicated above, in 1970 they will have the following graduate students: Drake University 790; St. Ambrose 9; Iowa State Teachers College 554; Iowa State University 2,668; and the State University of Iowa 4,666.

Table 24A. Predicted Graduate Student Enrollment in Iowa, 1960-70, Based Upon Trends From 1949 to 1959, and the Total Enrollment for Each Year 1960-70.

	Undergraduate Enrollment	Graduate Enrollment	Total Enrollment
1960	44,786	4,215	49,001
1961	46,697	4,531	51,228
1962	48,108	4,870	52,978
1963	48,820	5,235	54,055
1964	51,984	5,627	57,611
1965	57,436	6,049	63,485
1966	62,222	6,503	68,725
1967	68,224	6,991	75,215
1968	71,757	7,515	79,272
1969	74,087	8,079	82,166
1970	76,414	8,685	85,099

CHAPTER V

CONCLUSIONS

The following conclusions were drawn as a result of this study:

1. Births and population in Iowa, while increasing, are not increasing at as rapid a pace as is the national average. Therefore, the anticipated doubling of college enrollments on a national basis will probably not apply to Iowa.

2. The per cent of births becoming college freshmen in Iowa 18 years later leveled off from 1955 through 1959 at approximately 35 per cent.

3. Since 1954, approximately 50 per cent of the high school seniors in Iowa have entered college in the fall.

4. Iowa undergraduate enrollments have increased substantially from a low of 27,614 in 1952 to a high of 42,535 in 1959.

5. The most conservative estimate of freshman enrollments showed a rise from an actual count of 16,304 freshmen in 1959 to an estimated 20,210 freshmen in 1970, an increase of 3,906. This forecast was grounded on the assumption that 49.8 per cent of the high school seniors each year would become college freshmen. The 49.8 per cent was the actual per cent of high school seniors in 1959 attending college in the fall semester of the same year.

6. The highest estimate of freshman enrollments showed a rise from 16,304 freshmen in 1959, to 26,918 freshmen in 1970, an increase of 10,614. This particular forecast was based on an estimated 0.6 per cent increase each year in the per cent of births becoming college freshmen 18 years later. The 0.6 per cent increase represented the average annual increase between 1950 and 1959.

7. The most conservative of the six forecasts employed in the study showed Iowa's college population rising from an actual enrollment of 42,535 undergraduates in 1959 to an estimated 52,767 undergraduates in 1970, an increase of 10,232. This study was based on the average percentage of 18- to 21-year-olds attending college between 1950 and 1959.

8. The highest estimate showed the undergraduate population increasing from an actual enrollment of 42,535 students in 1959 to an estimated 76,414 students in 1970, an increase of 33,879. This study assumed an increase of 0.6 per cent added annually to a base of 27 per cent, the latter figure representing the per cent of 18- to 21-year-olds attending college in Iowa in 1959.

9. The per cent of freshmen advancing to sophomores, calculated for a period between 1948 and 1959, ranged from a low of 65.7 per cent from 1950 to 1951 to 75.1 per cent from 1954 to 1955; the per cent of sophomores advancing to juniors ranged from 63.9 per cent from 1950 to 1951 to 76 per cent from 1954 to 1955; and the per cent of juniors advancing to seniors ranged from 80.1

percent from 1950 to 1951 to 89.5 per cent from 1954 to 1955. The average advancement ratio, which was the one used in this study, showed a 70.3 per cent from freshmen to sophomores, 70.6 per cent from sophomores to juniors, and 87.2 per cent from juniors to seniors.

10. As to migration of college students to and from Iowa, there were about 1,000 more students coming to Iowa in 1958 than there were Iowans going to colleges in other states. The trend seems to be toward out-migration equaling in-migration. Once this was determined, it was not considered necessary to include migration as a factor in predicting enrollments.

11. The decline in college enrollments from 1948 to 1952 can probably be partially explained by (a) the slacking off of the influx of GI's and the beginning of a return to normalcy; and (b) the low birthrate of the early thirties.

12. As has been stated, it was assumed that entrance qualifications to institutions of higher education in Iowa would not be changed substantially during the period covered in this study. A sub-assumption that should be made at this point is that Iowa will quite likely raise its entrance standards in the decade ahead, for this is a strong national trend. Enrollments will be affected to the extent to which these standards are raised.

13. In the opinion of the author, the forecast based on a straight line increase of 0.6 per cent in the percentage of 18- to 21-year-olds becoming college students deserves a slightly favored position over the other forecasts. This forecast (Table 24) showed the largest increases in college populations, and demonstrated a steady increase in undergraduate enrollments to a high of 76,414 in 1970. This model was preferred because the total number of 18-to 21-year-olds provided a far larger statistical population than births or high school seniors, and, therefore, was seemingly less susceptible to misleading, and frequently obscure, causes of fluctuation. There seemed no reason to doubt that the rate of increase in the fifties would be continued in the sixties. These factors contributed to the attractiveness of this forecast.

14. Assuming an annual 7.5% increase in graduate enrollments, these will increase from about 4,200 to 8,700 in the next decade.

15. It is estimated that total enrollments will increase from about 49,000 to about 85,000 in the next decade, an increase of almost 75%.

16. Again, it should be cautioned that surveys such as this should be re-examined frequently to determine changes in trends and to check the accuracy of the various forecasts.

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TABLE 25. PREDICTED IOWA PUBLIC SCHOOL ENROLLMENTS, GRADES 1-8, USING LOW PROJECTION FACTORS

Year	First	Second	Third	Fourth	Fifth	Sixth	Seventh	Eighth	Total grades 1-8
1958-1959	57,297	41,082	46,804	46,176	45,191	46,604	38,319	35,069	356,742
1959-1960	58,575	41,998	39,685	45,166	44,883	43,971	45,439	25,290	345,007
1960-1961	56,384	40,420	40,570	38,296	43,901	43,671	42,872	43,894	350,008
1961-1962	56,522	40,427	39,046	39,150	37,224	42,716	42,579	41,414	339,078
1962-1963	56,512	40,526	39,457	37,679	38,054	36,219	41,648	41,131	335,916
1963-1964	56,766	40,519	39,148	38,076	36,624	37,027	35,314	40,232	323,706
1964-1965	55,583	40,701	39,141	37,778	37,010	35,635	36,101	34,113	316,362
1965-1966	57,148	39,852	39,317	37,771	36,720	36,011	34,744	34,874	316,437

TABLE 26. PREDICTED IOWA PUBLIC SCHOOL ENROLLMENTS, GRADES 9-12, USING LOW PROJECTION FACTORS

Year	Ninth	Tenth	Eleventh	Twelfth	Total grades 9-12	Total grades 1-12
1958-1959	31,410	33,716	32,046	27,857	125,029	481,771
1959-1960	33,280	29,337	30,682	29,226	122,525	467,532
1960-1961	24,000	30,149	26,697	27,982	108,830	465,838
1961-1962	41,655	22,416	27,436	24,348	115,855	454,933
1962-1963	39,302	38,905	20,399	25,022	123,628	459,544
1963-1964	39,033	36,708	35,404	18,604	129,749	453,455
1964-1965	38,180	36,457	33,403	32,288	140,328	456,690
1965-1966	32,373	35,660	33,176	30,464	132,003	447,440

TABLE 27. PREDICTED IOWA PUBLIC SCHOOL ENROLLMENTS, GRADES 1-8, USING AVERAGE PROJECTION FACTORS

Year	First	Second	Third	Fourth	Fifth	Sixth	Seventh	Eighth	Total grades 1-8
1958-1959	57,297	45,274	47,191	46,559	45,517	46,795	35,708	35,359	359,700
1959-1960	58,575	43,389	44,097	45,917	45,581	42,243	46,140	34,780	360,722
1960-1961	56,384	44,868	42,261	42,906	44,624	44,533	42,652	44,940	362,168
1961-1962	56,522	43,190	43,701	41,120	42,005	43,598	43,910	40,236	354,282
1962-1963	56,512	43,295	42,067	42,522	40,256	41,039	42,988	42,768	351,447
1963-1964	56,766	43,288	42,169	40,931	41,629	39,301	40,464	41,870	346,418
1964-1965	55,583	43,483	42,163	41,034	40,071	40,672	38,751	39,412	341,169
1965-1966	57,148	42,577	42,352	41,025	40,172	39,149	40,103	37,743	340,269

TABLE 28. PREDICTED IOWA PUBLIC SCHOOL ENROLLMENTS, GRADES 9-12, USING AVERAGE PROJECTION FACTORS

Year	Ninth	Tenth	Eleventh	Twelfth	Total grades 9-12	Total grades 1-12
1958-1959	34,907	35,426	32,503	28,131	130,967	490,667
1959-1960	34,192	33,860	32,698	29,903	130,653	491,375
1960-1961	33,006	31,901	30,813	29,821	125,541	487,709
1961-1962	43,456	30,795	29,030	28,348	131,629	485,911
1962-1963	38,908	41,196	28,424	26,708	135,236	486,683
1963-1964	41,357	36,885	38,024	26,150	142,416	488,834
1964-1965	40,488	39,206	34,045	34,982	148,721	489,890
1965-1966	38,111	38,826	36,279	31,321	144,548	484,817

TABLE 29. PREDICTED IOWA PUBLIC SCHOOL ENROLLMENTS, GRADES 1-8, USING HIGH PROJECTION FACTORS

Year	First	Second	Third	Fourth	Fifth	Sixth	Seventh	Eighth	Total grades 1-8
1958-1959	57,297	48,525	47,968	47,229	46,121	47,514	38,634	36,013	369,901
1959-1960	58,575	46,984	47,943	47,344	46,857	45,337	47,123	37,977	378,140
1960-1961	56,384	48,090	46,420	47,320	46,965	46,060	44,974	46,322	383,735
1961-1962	56,522	46,291	47,513	45,817	46,941	45,562	45,692	44,209	378,637
1962-1963	56,512	46,348	45,736	46,895	45,450	46,443	45,198	44,915	376,502
1963-1964	56,766	46,605	45,792	45,141	46,520	44,677	46,071	44,430	374,793
1964-1965	55,583	45,634	45,839	45,197	44,780	45,729	44,320	45,288	373,341
1965-1966	57,148	46,919	46,046	45,243	44,835	44,019	45,363	43,567	371,893

TABLE 30. PREDICTED IOWA PUBLIC SCHOOL ENROLLMENTS, GRADES 9-12, USING HIGH PROJECTION FACTORS

Year	Ninth	Tenth	Eleventh	Twelfth	Total grades 9-12	Total grades 1-12
1958-1959	35,954	36,248	32,635	28,285	133,122	503,023
1959-1960	35,869	34,825	33,602	30,221	134,637	512,777
1960-1961	37,825	34,793	32,329	31,115	136,062	519,797
1961-1962	46,137	36,690	32,253	29,937	145,017	523,654
1962-1963	44,032	44,753	34,012	29,866	155,939	531,441
1963-1964	44,735	42,711	41,486	31,495	160,427	535,220
1964-1965	44,252	43,393	39,593	38,416	166,214	539,528
1965-1966	45,107	42,924	40,225	36,663	164,919	536,812