


1970

# Needs and interests of Iowa State University alumni in continuing education

Gerald Edward Parsons

*Iowa State University*

Follow this and additional works at: <https://lib.dr.iastate.edu/rtd>

 Part of the [Adult and Continuing Education Administration Commons](#), and the [Adult and Continuing Education and Teaching Commons](#)

## Recommended Citation

Parsons, Gerald Edward, "Needs and interests of Iowa State University alumni in continuing education " (1970). *Retrospective Theses and Dissertations*. 4785.

<https://lib.dr.iastate.edu/rtd/4785>

This Dissertation is brought to you for free and open access by the Iowa State University Capstones, Theses and Dissertations at Iowa State University Digital Repository. It has been accepted for inclusion in Retrospective Theses and Dissertations by an authorized administrator of Iowa State University Digital Repository. For more information, please contact [digirep@iastate.edu](mailto:digirep@iastate.edu).

71-7318

PARSONS, Gerald Edward, 1931-  
NEEDS AND INTERESTS OF IOWA STATE UNIVERSITY  
ALUMNI IN CONTINUING EDUCATION.

Iowa State University, Ph.D., 1970  
Education, adult

University Microfilms, Inc., Ann Arbor, Michigan

NEEDS AND INTERESTS OF IOWA STATE UNIVERSITY  
ALUMNI IN CONTINUING EDUCATION

by

Gerald Edward Parsons

A Dissertation Submitted to the  
Graduate Faculty in Partial Fulfillment of  
The Requirements for the Degree of  
DOCTOR OF PHILOSOPHY

Major Subject: Adult Education

Approved:

Signature was redacted for privacy.

In Charge of Major/Work

Signature was redacted for privacy.

Head of Major Area

Signature was redacted for privacy.

Dean of Graduate College

Iowa State University

Ames, Iowa

1970

## TABLE OF CONTENTS

	Page
CHAPTER I THE PROBLEM - ALUMNI CONTINUING EDUCATION	1
Statement of the Problem	1
Definition of Terms	5
Objective of the Study	6
Null Hypotheses	7
Source of Data	7
Limitations	8
Review of Literature	9
Organization of Dissertation	10
CHAPTER II CONTINUOUS EDUCATION - A VITAL CONCEPT OF EDUCATION	11
The Concept of Continuous Education	11
The continuous learner	14
The educational institution	16
The educational program or curriculum	21
Alumni Continuing Education	22
Summary	28
CHAPTER III METHODS AND PROCEDURES	29
Selection of the Sample	29
Development of the Questionnaire	32
Collection of the Data	34
Treatment of the Data	36
CHAPTER IV FINDINGS	38
Perception of Obligation, Need and Commitment to Continuing Education	38
Obligation and need to continue education	39

	Page
Commitment to participate	78
Present level of Participation in Continuing Education Programs	96
Number of different programs	97
Number of hours of instruction	111a
Needs and Interests of Alumni Related to Alumni Continuing Education	111a
Content of continuing education programs	111a
Traditional alumni functions and alumni continuing education	112
Responsibility for Alumni Continuing Education	138
Types of Alumni Continuing Education Programs	154
<b>CHAPTER V DISCUSSION</b>	<b>158</b>
<b>Conclusions</b>	<b>158</b>
What is the commitment of alumni to continuing education?	158
Obligation and need	159
Commitment to participate	170
What are the needs and interests of our alumni?	173
Who will participate in alumni continuing education programs?	179
Who should assume responsibility for alumni continuing education?	183
What type of educational programs do alumni prefer?	186
<b>Recommendations</b>	<b>187</b>
For further research	187
For program implementation	191

	Page
CHAPTER VI SUMMARY	196
BIBLIOGRAPHY	207
ACKNOWLEDGEMENTS	209
APPENDIX A: QUESTIONNAIRE AND REMINDERS	210
APPENDIX B: STATISTICAL FORMULAS	218

## CHAPTER I

## THE PROBLEM - ALUMNI CONTINUING EDUCATION

## Statement of the Problem

Society today is being molded by many and varying forces. Every facet is faced with extensive and vast changes. At no previous time in man's history has society undergone a greater and more complex series of changes and adaptations. Modern man is faced with the task of learning to live in a society unlike any previously experienced by man.

The contemporary situation is characterized by extensive scientific and technological advances; social, economic and political changes that take place at an increasing rate; greater social and civic responsibilities placed on the average citizen; democratization of cultural life, growing problems of leisure; breakdown of old traditions and long established customs and large scale movements of population from rural to urban, region to region and country to country.

Man has looked to education as a means of helping him to learn to live in his society. He expects, through education, he will learn to understand, make and utilize changes in society to serve his objectives. Although men have disagreed about the type of education needed, methods to be used and the results obtained, he has basically agreed that education can help man to learn to live better in society.

Some educators have divided life into two distinct but

unequal parts. During the first part (childhood and youth) emphasis is on education concerned with providing the children with the information and skills considered necessary to insure that the individual is equipped to function effectively in society. During the rest of life (adulthood) the individual uses the knowledge gained in his youth. In a relatively static society this view of education as being terminal and limited to a short period of life is reasonably satisfactory. With a rapidly changing society terminal education is not adequate. Adults can not rely on the knowledge learned during their childhood and youth to assist them in realistically facing present day problems, adjusting to change and understanding and controlling the forces in society.

In the decades ahead, the concept of continuous education will perhaps have a more significant impact on education than any other concept. Educators, philosophers and others throughout history have talked about the necessity of man to continue to learn throughout his lifetime. Although relevant for all ages, it is ironic that modern technology, one of education's finest products, has made this concept a necessity in this decade.

College and university graduates are faced today with the fact that their education is at the point of becoming obsolete at the time of their graduation unless they pursue an active program of keeping up to date and expanding their knowledge. It is agreed that the college graduate has the primary



responsibility of continuing his own education. A still to be resolved question is whether the institution from which a student graduates should have major responsibility in assisting an alumnus to continue his education. Most employers have accepted responsibility for helping their employees continue their education. Some have been instrumental in developing special post college or university level programs on and off college campuses.

Iowa State University, as a land-grant university, is integrally involved in continuing education. A wide variety of opportunities for alumni to continue their education are provided. University Extension, each of the colleges, the Alumni Association, and various departments and other groups such as the Office of Foreign Student and Visitor Services are involved in continuing education for graduates.

The College of Education provides a large number of late afternoon and evening on and off campus credit courses for professional educators and others working towards advanced degrees. In addition they sponsor or cooperate with professional organizations to offer short courses, conferences and workshops. The Annual Conference for Elementary Teachers and School Administrators held each summer is one example.

The responsibility for providing suitable programs for the continuing education of alumni for personal and professional growth is one of the stated objectives of the College of Home Economics at Iowa State. A heavy summer session schedule of

regular university courses and special 2-5 week workshops provide opportunities for Home Economics graduates to continue their education. The ISU Home Economics Alumnae Association annually holds an educational meeting to help graduates to keep up-to-date.

University Extension and the College of Veterinary Medicine, in cooperation with the Iowa Veterinary Medical Association, sponsors various forms of continuing education, on and off campus. A brochure mailed to all veterinarians in Iowa each year announces the program available. Veterinarians are encouraged to earn 50 credits annually. Credit is given for attending local, district, state, regional and national meetings of their professional association, short courses and clinics.

The Iowa State University Alumni Association and University Extension have been conducting a series of Alumni Seminars since 1966. The seminars, planned for husbands and wives, have discussed science and technology, communications, concepts of time and environment. One weekend session has been held annually until 1970 when two sessions were held. The seminars have involved alumni with a wide range of backgrounds and interests. These seminars have attracted both state and national attention because of the involvement of alumni in on-campus educational programs discussing current issues and problems facing individuals in today's society.

A significant development at Iowa State University is the

Iowa State Center with the proposed continuing education building. The availability of a major building with professional staff for the designated purpose of continuing education will provide a focal point for the more formalized expansion of continuing education programs. It could also be a focal point for an expanded alumni continuing education program.

Much has been written about the need for alumni continuing education. An increasing number of programs have been conducted, but little research has been done. Research is needed to provide additional data and guidelines for more effective development of alumni continuing education programs. Nationally, there is very little research related to alumni continuing education. There is a limited amount of research currently available to indicate the needs, interests, preferences and concerns of Iowa State University alumni. A limited number of surveys have been conducted. A recent example is the College of Home Economics survey conducted in 1969 in which graduates from 1963 to 1968 were asked to respond to a series of questions designed to improve the effectiveness of the Home Economics program. One section of the questionnaire dealt with continuing education. The results of this section of the survey were not tabulated at the time this research project was completed.

#### Definition of Terms

Within the context of continuing education, alumni continuing education becomes one of the methods of achieving the goal

of helping college and university alumni to continue their education. Alumni continuing education in its fullest dimension includes all methods of helping alumni to continue learning.

#### Objective of the Study

The overall objective of the project was to study factors related to the development and implementation of continuing education programs for Iowa State University alumni. The information provided will enable Iowa State University, through the Office of Alumni Affairs, University Extension and other groups, to more adequately determine the needs and interests of Iowa State University alumni, identify target audiences and give direction to the establishment of priorities for alumni continuing education.

Specific objectives were to:

1. determine Iowa State University alumni's perception of their obligation, need and commitment to participate in continuing education;
2. ascertain the present level of participation of Iowa State University alumni in continuing education programs;
3. determine factors or variables associated with the expressed needs and interests in alumni continuing education programs;
4. determine who alumni perceive should assume responsibility for continuing education programs;

5. determine content, type and location of education programs in which alumni would prefer to participate.

#### Null Hypotheses

The null hypotheses tested were as follows:

1. There is no significant difference between the alumni's perception of their obligation, need and commitment to participate in continuing education when compared with categories of selected characteristics of alumni.
2. There is no significant difference between the present level of participation in continuing education programs when compared with categories of selected characteristics of alumni.
3. There is no significant difference between expressed needs and interests in alumni continuing education programs when compared with categories of selected characteristics of alumni.
4. There is no significant difference between the alumni's perception of who should assume responsibility for alumni continuing education programs when compared with the categories of selected characteristics of alumni.

#### Source of Data

A stratified random sample was drawn from the approximately 20,000 Iowa State University alumni living in Iowa. The

sample was stratified on the year of graduation and the college (division) in which the alumni earned their first degree. The study was limited to the alumni who graduated in 1926-1965, inclusively.

A mailed questionnaire was used to supplement data already available from the Iowa State University Alumni Central Records System. Data from both sources were merged for a composite profile on each graduate in the sample. A total of 934 questionnaires was returned and used in the study.

#### Limitations

A study of all Iowa State University alumni is needed but a higher priority was placed on a study of alumni living in Iowa. The primary responsibility of Iowa State University is to serve Iowa residents so it was felt to be significantly more important to study the alumni living in Iowa. The data gathered in this project can be used to develop other research projects related to alumni continuing education.

The data in this study were obtained from two different mailed questionnaires. As a result, the data are subject to the same problems as all data gathered by this method. Personal interviews would have yielded more accurate and comprehensive data but limited resources made it necessary to utilize the mailed questionnaire approach. The mailed questionnaire permitted data to be gathered from a larger sample.

## Review of Literature

A search of literature, using materials from the Educational Resources Information Center (ERIC) extensively, has revealed only a limited number of studies related to alumni continuing education as identified in this study. Considerable attention has been given to continuing education in recent years but little attention has specifically been directed to college and university alumni. Currently there is a growing number of adult educators, alumni directors, and college and university administrators giving attention to alumni continuing education.

Many participation studies in adult continuing education have been conducted. One of the most frequently quoted studies is Johnstone and Riveria. (10, p. 8) They report that:

"The adult education participant is just as often a woman as a man, is typically under forty, has completed high school or more, enjoys an above-average income, works full time and most often in a white-collar occupation, is married and has children, lives in an urbanized area but more likely in a suburb than a large city, and is found in all parts of the country, but more frequently in the West than in other regions."

Douglah (7) points out that the most consistent findings in educational participation research is the relatively high association between participation and level of formal education. Studies where level of education was held as a constant factor or variable are not available.

Studies that have asked alumni to evaluate their education

and to suggest changes and revisions in undergraduate and graduate curriculums are frequently made. Most of these studies attempt to relate a number of variables such as extra-curricular activities, grade point, honors, courses, present occupation and salary level.

The Bear (3) and Rhea (15) studies at Iowa State University are two examples of this type of study, which obtain attitudes and information on an alumnus' past education. They do not ask alumni to reflect on present or future continuing education participation and needs. Although important, most of these studies do not provide satisfactory data to make inferences for continuing education needs.

Other relevant studies and literature are incorporated into Chapter II and V.

#### Organization of Dissertation

This dissertation is organized into six chapters. The first chapter identifies the background, the problems related to alumni continuing education, the general and specific objectives of the study, limitations and definitions, and reviews relevant research and literature. Chapter II develops the conceptual framework for the study. The methods and procedures used in this study are in Chapter III. Chapter IV is a presentation of the findings. A discussion of the implications of the findings and recommendation for further research are in Chapter V. The final chapter presents a brief summary for the study.



## CHAPTER II

## CONTINUOUS EDUCATION -- A VITAL CONCEPT FOR EDUCATION

Alumni continuing education is one facet of education. A discussion of this important facet must be within the framework of the larger and more encompassing concept of continuous education. Whereas alumni continuing education is concerned with the alumni of colleges and universities, the concept of continuing education involves all people - children, youth and adults - irregardless of their level of educational achievement.

This discussion of continuous education is organized as follows: (1) The Concept of Continuous Education, (2) Alumni Continuing Education, (3) Summary.

## The Concept of Continuous Education

In international educational circles, continuous education is often called "lifelong education" or "education permante". In a 1965 UNESCO report (20, p. 8) on the advancement of adult education, lifelong education is defined as:

"the animating principle of the whole process of education, regarded as continuing throughout an individual's life from the earliest childhood to the end of his days, and therefore calling for an integrated organization. The necessary integration should be achieved both vertically, throughout the duration of life, and horizontally to cover all the various aspects of the life of the individuals and societies."

Continuous education is, in the words of J. Roby Kidd,  
(12, p. 4)

".....consonant with education. It would be simpler to use the single word (education) but, if I did, I fear that my meaning might not be understood. Continuous learning is a concept; it is an attitude; it is a totality; it is not a segment or a special field or division of education."

Continuous education involves both the formalized elementary, secondary and higher education and informal out-of-school educational programs. The latter programs are identified by a variety of names such as night school, adult education classes and extension. Coombs says (5, p. 139) the aims of continuing education are:

"(1) to ensure the employable mobility of individuals, and to make employable "dropouts" of the past employable; (2) to keep already trained people abreast of new knowledge and technologies essential to their continued high productivity in their respective fields; and (3) to improve the quality and satisfaction of individual lives through culturally enriching their expanding leisure time."

Historically adult education, often referred to as continuing education, has been identified as the education a person receives after he has completed the formal programs in elementary, secondary and higher education institutions. As a result its effectiveness has been limited. In today's society the education of adults must be set in the broader framework of the concept of continuous education. The critical point is that if the concept is to be fully effective, it must start in the very early stages of childhood.

In the book, The Future of the University, Gordon A. Christenson says, "There is no reason why the process of learning should be restricted to one formal period of time during the early part of a person's life." (4, p. 83) He also says the best assurance of a lifetime of learning is through continuing education.

Three fundamental components of the concept of continuous education are: (1) the learner, (2) the educational institution and (3) the educational program or curriculum. These components are very closely interrelated and as a result have an important effect upon each other. Together the three delineate the concept of continuous education.

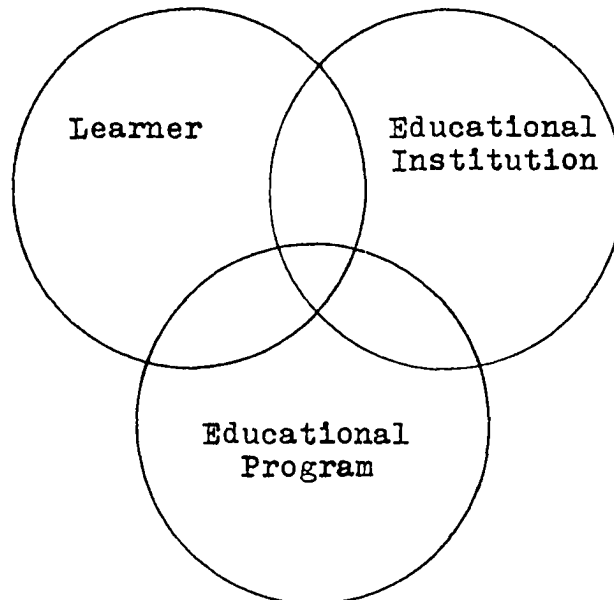


Figure 1. The essential facets of the Concept of Continuing Education

### The continuous learner

Margaret Mead (21, p. 60) has said that if continuous education is to be a moving and dynamic force, the desire for learning must become habitual. In a sense, man must become addicted to learning. She said:

"What we really want is for people to become addicted to learning something new, to be bored with the state of the knowledge that they had yesterday - the knowledge that is already chewed, predigested, memorized for examination - and to realize that if they are not learning something new, the things they already know will become dead, dry as dust, dusty and dead."

This is a daring and bold idea because from the time of his birth until his death man is continuously involved in education. Man does, in fact, become a continuous learner.

The idea of being a continuous learner may be a bold idea, but bold and daring ideas are needed in this era where man's knowledge is at the verge of being obsolete when he receives his high school diploma. More of the same type of education that has persisted throughout the past several generations is not sufficient for today.

The development of continuous learners demands that at the very early stages of a child's life, he be taught the importance of continuing his learning. Frost and Hawkes (9) report that lack of early environmental stimulation results in retardation of cognitive, locomotor and social development. This and other research emphasizes that the preschool years are critical years in education.

Research **has** demonstrated that learning ability does not decline with age. Knox (11) reports that when level of intelligence and level of education are controlled, older adults learn more than younger adults. He reports a study that indicated the ability to learn increases rapidly from birth to age 20 and then increases more gradually until age 50. The variability associated with age is so small, when compared with factors such as intelligence and prior experience, that, up to age 60, age has little significance.

The concept of continuous learning must be constantly re-enforced throughout life. Students need the opportunity to have repeated exposure to continuous learners so they can develop their own learning styles and patterns.

Although each will be uniquely different, certain attributes can be ascribed to continuous learners. Woditsch (21, p. 2) describes the continuous learner as a "habitual inquirer which is impelled to question, absorb data, formulate, judge, act, evaluate and question again." The continuous learner, having learned how to learn, has a permanent commitment to continue to learn. He is actively learning as he is engaged in the everyday affairs of the world. Learning for him is not restricted to the "ivory tower", nor is it restricted to the practical everyday world. The continuous learner, because he is committed to exploring new ideas and questioning old ways, has an increased sense of sensitivity to men as well as ideas. His depth of perception gives him the capacity to perceive new and significant forms and ideas.

Contrary to the belief of some, the continuous learner will not be free from all anxiety. Rollo May (21) emphasizes that because the continuous learner is learning through the process of encountering the world, he will, out of necessity, have some anxiety. Because of his commitment to change, he will be better able to cope with his anxiety.

The recognition that one's education can not stop at any one period in his life is a significant step in an individual's growth and development. There is no easy blueprint for the development of men and women who are capable of living and coping with modern society.

Nevitt Sandford (16, p. 14) says:

"quality in education can only be judged by how well it develops quality in the person. It can no longer be enough to turn out competent engineers or competent teachers. Education must develop the individual's potential for all his changing worlds and it must inspire him to go on developing through all the years after college."

#### The educational institution

Educational institutions, to be truly effective, must accurately and efficiently reflect the needs of people in the society in which they function. They must be able to produce the desired output -- men and women who will continue to learn throughout their lifetime and therefore use their capacities to the fullest.

To meet the challenge of developing continuous learners, a new type of educational institution must be developed. Lerner, (21, p. 31) calls it an "open ended" educational institution. He says it must be open ended because "it doesn't terminate at

the end of a particular time."

The institution, whether it is a university, high school or an elementary school, must have a structure that fosters the development of continuous learners. If education is to be continuous, all educational structures will be profoundly affected by this change. A coherent structure, in which each part is dependent upon the other and has no meaning except in relation to the other, must be developed. (12) Although significant for all levels of education, the illustrations and elaborations used in this discussion will be restricted to the college and university level.

A significant idea that must permeate all levels of the educational institutions is that the diploma does not signify the completion of learning. The four years of the undergraduate college program should become known as four additional years of the learning process rather than the last four years.

The development of the concept of continuous learners at the college and university level necessitates a faculty that is devoted to the concept of continuous education. They must, themselves, be involved in the persuance of the goal of being a continuous learner. On this basis, they will be vitally concerned about what the student will be in 20 or 30 years rather than being overly concerned about the students as they are today. They will serve as "models" for students to use in developing their own learning styles.

An open ended university will be committed to the education

of the whole human being. Being concerned about the whole human being will result in the university not down grading everything that is experience, performance, direct, immediate and nonverbal. (21, p. 10)

Since education is a part of life, or more precisely, a process that goes on throughout life, the university or college must be prepared to relate their educational program to life. Greater emphasis should be placed on helping students to establish curiosity and interests and skills that they will be able to use after they leave the educational setting.

Greater emphasis should be placed on the identification and understanding of significant problems and dilemmas rather than on achieving final answers. Out of necessity, students need to have experience with problems in the real world as well as the intellectual stimulation usually found in the so-called "ivory tower" institutions.

Educational institutions that are developing the concept of continuous education must make adequate preparations to offer educational programs to people at all stages of life. The opportunity for younger students to live and learn with people of different ages will serve as a stimulating experience for both groups.

Historically, the land-grant college movement has been a symbol of the American university's attempt to serve the needs of people and provide every citizen with the opportunity to receive some form of higher education. The Cooperative Extension



Service, a partnership with land-grant colleges and universities, the United States Department of Agriculture and local people, has as its aim to diffuse among the people of the United States, useful and practical information. The emphasis is on education for action rather than abstract education. Continuous education is the objective of the land-grant college movement. The structure of the institution was developed to achieve this goal.

More recently other colleges and universities have devoted much attention to the function of extending their educational services beyond the campus. The expansion and encouragement of "extension" functions at both public and private institutions of higher education has gained momentum during the last decade.

The community college has moved to the forefront of educational circles as an institution with flexibility and support to serve as an agency of continuous education. An integral part of the community college is community service functions or continuous education for all people of the community.

Continuous education must be an integral, not an auxiliary, function of the educational institution. Only when the concept of continuous education permeates all levels of the university--the faculty, administration, the official governing body and the general public, will the development of continuous learners become a vital and significant part of the educational institution.

The educational program or curriculum

The development of the concept of continuing education means that all educational institutions must take a critical look at their educational program or curriculum. New approaches to content and methods will need to be explored.

Much has been written and said about the pros and cons of liberal and vocational education. The concepts of continuing education, by its very nature, tends to espouse the concepts of liberal education. Drucker (21, p. 13) makes this significant point:

"A subject by itself is neither "liberal" nor "vocational" - in fact all subjects worth teaching or learning are both. The way a subject is presented, the way it is taught and learned decides whether there will be an increase in the human capacity to do and learn or ossification of human capacity ....."

A. A. Liveright in describing his Uncommon College - College of Continuing Education (13) said courses should end with open-minded questions rather than with a sense of closure. Courses designed to facilitate the development of the concept of continuous learning will approach the learning of content in the context of the larger world rather than the isolation of the classroom. J. Roby Kidd (12) says that "all courses must be replanned to be something other than fixed immovable terminal points."

Emphasis will need to be placed on teaching students the skills of how to learn and utilize learning arts that are available everywhere. To further this objective, research, aimed at

understanding the motivation to learn, will be needed.

The ability to communicate to all people is vital to the development of continuous learners. The skills of learning and communications should be built into all subjects taught.

Although shunned by many educators, the educational program of an institution committed to continuous education must be involved in the continuing search for values. Specific values should not be taught but the search for values must be encouraged.

#### Alumni Continuing Education

Historically, college and university alumni associations have been involved in the nostalgia of keeping alumni in contact with their alma mater. Activities such as class reunions, alumni social clubs, annual membership and fund drives and public relations have been the main thrust of alumni associations.

James E. Armstrong, former alumni secretary of Notre Dame and former president of the American Alumni Council has identified seven stages of alumni programs as the:

1. Personal age - the age of tears and songs.
2. Social age - local alumni clubs and reunions came with this era.
3. Athletic or competitive age - an age of enthusiasm with competition and challenge.
4. The philosophical age - the age of prolific prose and oratory.

5. Financial age - era of dollar diplomacy.
6. Modern age - expansion of the financial age to new dimensions of both means and ends.
7. The golden age - the space age with a mixture of experience and dreams for a new future.

In discussing the golden age of alumni work, Armstrong (2, p. 9) says:

"The success of alumni programs in this golden age will depend on recognition of our new identification as an equal part and partner in the total field of higher educations; our ability to anticipate our role and to shape this anticipation into leadership and inspiration; our identification and development of alumnus as a total and social person through continuous programs; and our use of every asset we have or can create to achieve total institutional advancement."

A review of Alma Mater, the professional magazine for the American Alumni Council, quickly reveals the idea that alumni work needs to change is hardly new. The central message of many educators, friends of education, professional alumni staff members and others who had written in the Alma Mater and/or have appeared before the American Alumni Council conferences has been that alumni work needs to assume more responsibility for the continuing education of college and university alumni.

The interest in alumni continuing education is not new. Ernest Martin Hopkins (18, p. 7) in his inaugural address at Dartmouth College in 1916 said:

"If the college, then, has conviction that its influence is worth seeking at the expense of four vital years in the formative period of

life, is it not logically compelled to search for some method of giving access to this influence to its graduates in their subsequent years."

Also, in 1916, Alexander Weikeljohn, President of Amherst College, said that he thought the only real test of the faculty was the extent to which pupils continued to study after they left the college. Professor Cyril Houle, of the University of Chicago in 1947, brought the idea of alumni education into sharper focus when he said:

"Sooner or later, some college or university will undertake, in a systematic fashion, to plan a lifelong program of education. It will give to young people those basic and structural elements which best set their pattern for their later life. It will then offer a program of continued study for its alumni, giving them an opportunity to extend, broaden, and modernize their education throughout life, as well as offering them a chance to learn the specific things which they need to know as they undertake new responsibilities."<sup>1</sup>

The American Alumni Council and the Fund for Adult Education sponsored in 1958 a conference on the continuing education of alumni. From this conference, known as the Shoreham Conference, came a formal report (1) that identified the following five principles for alumni continuing education.

1. Continuing education of the adult is a major responsibility of this nation's colleges and universities, and that each institution must accept an obligation for the continuing education of its alumni.

---

<sup>1</sup>Rosebush, John McN. Lawrence University, Appleton, Wisconsin. Private communication. 1970.

2. The administration and faculties of colleges and universities, alumni associations, and individual alumni must recognize the responsibility for continuous education in their purposes and actions.
3. The nation's colleges and universities must consider continuing education of alumni as part of a long range commitment that begins with the student on the campus.
4. Programs of continuing education developed for alumni should be characterized by the same seriousness in intent and purpose and the same quality in content and performance that are found in regular curricula.
5. The curriculum and teaching in colleges and universities should be designed to further the desire for and the process of continuous education.

This conference further specified that alumni continuing education must be comprehensive and flexible in its implementation. They further set forth the following guides:

1. The responsibility for program content should be primarily with the faculty and academic administrators.
2. Alumni administrators should have a key role in providing continuing education opportunities because of their intimate knowledge of the needs of alumni and their ability to promote programs designed for alumni.
3. The American Alumni Council should promulgate the needs and advantages of continuing education programs and the availability of institutional programs such as workshops, symposia, lectures, publications, extension programs; non-collegiate adult educational programs organized by museums, arts councils, churches, and special adult educational groups; and inter-institutional programs involving two or more institutions (1).

There seems to be no disagreement that educational institutions and/or alumni associations have some responsibilities for the continuing intellectual development of alumni. There appears, based on a review of the discussions in Alma Mater, to be no rapid swing to extensive programs in alumni continuing education. Verne Stadtman, (19, p. 16) past president of the American Alumni Council, writing in the March 1966 issue of Alma Mater, said that alumni work has not kept up with the challenges placed before it. He went on to say: "This is sad, because the choice is not between change and status quo. The choice is between change and imminent irrelevance to colleges and universities that are out-growing current alumni endeavor."

A national survey was undertaken in the spring of 1967 to determine what programs were being conducted by alumni associations in the 1425 institutions that are members of the American Alumni Council. The formal report was published and distributed to its members in 1968. (1)

A total of 672 colleges and universities in the United States responded to the survey. This report shows that 71% of the institutions responding have at least one continuing education program. Only about 9% of the alumni associations at these institutions participated directly in the planning, financing, promotion or sponsoring of programs. From this report, it was learned that 92% of the programs were on-campus lectures or seminars. A wide range of activities with varying degrees of success and support were reported.

In May 1970, representatives of the American Alumni Council and the National University Extension Association met at Notre Dame University to discuss a more systematic approach to the continuing education of alumni. An experimental program for alumni continuing education was discussed.

The most comprehensive program in alumni continuing education has been undertaken by Oakland University at Rochester, Michigan. The Oakland Plan was developed to help find a way the systematic pursuit of education by alumni can become the rule rather than the exception. Oakland University attempted to find out what needed to be done to assure that their graduates realized and accepted the challenge of continuing education, and how they could assist these graduates in fulfilling their needs for continuing education. Essentially, the program is designed to provide Oakland's graduates with systematic counsel and assistance in identifying and meeting their life-long educational needs. The four phased program is divided into (1) undergraduate orientation, (2) maintenance of continuous liason between the university, the alumnus and his employer, (3) periodic professional counseling on how to meet educational needs, (4) maintenance of a clearing house of information on educational programs.

Alumni continuing education has had, over a long period of time, a number of prominent advisaries. As the idea gains momentum the pedagogy will gain in stature and refinement.



### Summary

Max Lerner (21, p. 23) talks about the development of creative minorities. One of his minorities is the intellectual elites. The intellectual elites have power to create change through the use of words, ideas and symbols. Those who have graduated from the nation's colleges and universities are a key group within the intellectual elites.

With the rapidly expanding knowledge base the necessity of this group to continue their education is self evident. From this premise alumni continuing education becomes a relevant method of meeting the needs of a significant group in society.

Alumni continuing education, if it is to make a maximum impact on education, must be viewed in the context of the concept of continuing education. In this context, it becomes one of the many methods of achieving the goal of helping individuals develop to their fullest potential.

The current situation in regard to alumni continuing education is summed up in the working paper which was a part of the Notre Dame Conference in May 1970:

"However, to date, little has been done in an organized way to implement the concept of continuing education to instill the importance and zeal for life-long learning in college and university undergraduates, to counsel them on their continuing education needs after graduation, and to provide a variety of well planned continuing education programs to meet expressed, learning needs of alumni."<sup>1</sup>

---

<sup>1</sup>Rosebush, John McN., Lawrence University, Appleton, Wisconsin. Private communication. 1970.

## CHAPTER III

## METHODS AND PROCEDURES

This study was designed to provide research data to assist in planning alumni continuing education programs. It was developed to provide bench mark data and to stimulate other adult educators to develop more sophisticated research to answer the many substantial questions surrounding alumni continuing education.

In describing the methods and procedures used to gather and analyze the data needed, this chapter has been divided into the following parts: (1) selection of the sample, (2) development of the questionnaire, (3) collection of data, and (4) treatment of the data.

## Selection of the Sample

Based on the discussions with Iowa State University Office of Alumni Affairs personnel and others, it was deemed important to have all colleges or divisions<sup>1</sup> represented in the study and the study should not be limited to alumni from any one period of time. The older alumni included should, under normal circumstances, be retired or about to retire. The more recent graduates should have had an opportunity to complete their military obligation, complete their advanced degrees and become employed

---

<sup>1</sup>Prior to the time when Iowa State College became Iowa State University, the present colleges were known as divisions.

in the occupation of their choice. To meet these criteria the alumni in this study graduated from 1926-1965, inclusively.

A wide variety of sociological, economical and political factors affect students in higher education. Specific factors are not concentrated in one year but tend to be over a period of years. In consultation with staff members at Iowa State University, four eras or periods of time were established as being relevant for 1926-65. The eras were 1926-32, 1933-40, 1941-52, 1953-65. Briefly, the rationale for these eras is as follows:

1926-1932 - "The Pre-depression Era": During this period the United States was involved in making a large number of adjustments following World War I. The United States was in the process of becoming a world power. Many of the foundations for the technological revolution that occurred in a later era were laid at this time.

1933-1940 - "The Depression Era": Unemployment was at an all time high. All people, regardless of their socio-economic standing, keenly felt the impact of the great depression.

1941-1952 - "The World War II and Korean War Era" This wartime period saw college and university enrollments dwindle and then rise again to unexpected peaks. Full employment and big military budgets greatly affected the economic condition of the country. Depression and war have more impact socially and economically on the people than any other factors.

1953-1965 - "The Post War and Cold War Era": This era is characterized by the post war recession that followed the

Korean War and the many socio-economic and political factors of the cold war. The United States had not yet become involved in the Vietnam War. Although student unrest was developing strongly in some universities, it was just beginning to appear at Iowa State University.

The five colleges used in this study were Agriculture, Engineering, Home Economics, Sciences and Humanities and Veterinary Medicine. The College of Education was not established until 1968 so it was not included. Education majors were previously enrolled in the colleges of Agriculture, Home Economics, and Sciences and Humanities.

The sample was stratified on the era or year of graduation and the college or division from which the alumni graduated. Alumni were placed in the era and college cells on the basis of the date and college in which they earned their first degree at Iowa State University.

The Iowa State University Office of Alumni Affairs provided a list of all alumni known to be living in Iowa on, or about, November 1, 1969. This list was reduced to those alumni for the period of time used in the study. A total of 15,158 alumni remained on the list.

A systematic sampling technique was used to select approximately 100 alumni for each of the twenty cells (five colleges and four eras). The specific names were selected by taking every sixth name from the list. The point of entry into the list of names was randomly determined. This procedure was

repeated seven times. When more than 100 names were identified in cells, a random selection was made to reduce the number to 100.

The number of graduates in the 1926-1932 and 1933-1940 Veterinary Medicine cells was low. Only 39 alumni from the 1926-1932 era and 70 alumni from the 1933-1940 era were living in Iowa, so consequently the total population was used in the sample.

The Office of Alumni Affairs is converting their alumni records to a data processing system. At the time of this study, the new system was not complete so considerable hand labor was necessary to select the sample, address envelopes, check on returned questionnaires and to prepare follow-up mailings.

#### Development of the Questionnaire

The instrument used to collect data for this system was a six page foldout questionnaire designed to supplement the data already available in the Iowa State University Alumni Central Records System. The Office of Alumni Affairs also used a mailed questionnaire to secure data from the graduates for their new computerized record system.

The instrument for this study was designed to secure information about the participation of alumni in noncredit and credit adult or continuing education programs planned specifically for Iowa State University alumni. In addition, they were asked to indicate topics and types of programs in which they would like

to participate, and to react to a series of agree-disagree questions relating to alumni continuing education. To supplement the data from the alumni records, the alumni were asked to respond to a question regarding their participation in community activities.

The alumni were asked to report their participation in adult and continuing education for the calendar year 1969. It was recognized that one year may not be a good indicator of the respondent's typical participation but asking the respondents to report on more than one year's activities would be difficult and would tend to discourage completion of the questionnaire.

The questionnaire was field tested with college and university alumni who were not in the sample. These alumni, primarily Iowa State University graduates, represented a wide range of majors, ages and interests. Both men and women were included in the field test. The field test included an interview with the respondents after they had completed the questionnaire. Interpretation of specific questions, completeness of data, attitudes toward the questions, style of questions and layout were reviewed. Respondents were also asked to report the amount of time needed to complete the questionnaire.

It was felt that being able to have a face-to-face contact with the field test group, rather than using a mail procedure, resulted in more valuable information and insights into attitudes and feelings toward the specific items in the questionnaire. Suggestions and comments were also solicited from the

staff members of the Iowa State University Office of Alumni Affairs and the American Alumni Council.

The first page of the questionnaire was a letter from Dr. Robert Crom, Director of Alumni Affairs at Iowa State University. The follow up postcard reminding the alumni to return their questionnaires and the note with the second mailing of the questionnaire were also signed by Dr. Crom. A copy of the questionnaire, the reminder card and the follow-up note are in Appendix A.

#### Collection of the Data

The questionnaires were mailed to the alumni in the sample on February 4-7, 1970. Special attention was given to use envelopes, letterhead style and format not related to fund raising or other alumni activities. The respondents were provided with return postage guaranteed envelopes. The return envelopes were addressed to the Iowa State University Alumni Office. A total of 1997 questionnaires were mailed. A total of 484 returns were returned in the first nine days. During February 19-22, reminder cards were mailed to alumni who had not returned their questionnaires. A total of 1500 five-cent postcards were mailed. Another 270 questionnaires were received after the reminder card was mailed.

The final contact was made to alumni in selected cells. A second questionnaire, with a note from Dr. Crom, was mailed to alumni in those cells with less than 40 responses. A total of

701 questionnaires were mailed. The cells included in this mailing were all four of the Veterinary Medicine and Sciences and Humanities cells. Also contacted were the Engineering cells with the exception of the 1941-52 era. A report of the number of responses received is found in Table 1.

Table 1. Distribution of alumni by college and era of graduation

Era of graduation	College					TOTAL
	AGR.	ENG.	H. Ec.	S&H	V.M.	
1926-32	43	39	46	58	15	201
1933-40	46	45	42	47	35	215
1941-52	45	44	54	46	55	244
1953-65	45	49	71	58	51	274
Total	179	177	213	209	156	934

At the time of this study the Iowa State University Central Records System was not fully operative but data from the file were made available. Some data, such as the number and age of children, although included on the original alumni questionnaire, were not available because of the stage of development of the system.

Although the data from the alumni record system were not complete, it was felt that it was better to use this source of data rather than to lengthen the questionnaire and discourage alumni from responding to the questionnaire.



### Treatment of the Data

To give an overall picture of the data a frequency run was made. The data were recorded by era and college with means and deviations calculated.

Single classification analysis of variance was used to determine if the differences between categories were statistically significant. To determine if a relationship existed between continuous variables, the Pearson Product Moment correlation statistical technique was used. Pearson Product Moment correlations were also calculated to determine if a relationship existed between the various groups of reaction statements. These correlations are reported in Chapter IV.

The formulas for the statistical techniques used are reported in the Appendix B.

It was surmised that the alumni returning questionnaires early could be significantly different than the alumni who returned questionnaires after the second reminder letter was sent. To determine if a difference did exist, the late returns were identified and an analysis of variance was made. There was no significant difference between the last respondents and the rest of the respondents. The alumni returning their questionnaires after the second reminder placed a lower value on continuing education and placed a higher value on social activities. This difference was not significant, however.

Another possible source of distortion in the data is non-respondent bias. Although potentially a significant factor the

resources allocated to this study did not provide an opportunity to check on the degree nonrespondent bias affected the data in this study.

Dependent variables: The four dependent variables identified and used in this study were (1) perception of obligations, needs and commitment to continuing education, (2) present level of participation in continuing education programs, (3) perception of needs and interests in alumni continuing education, (4) perception of who should sponsor alumni continuing education programs.

After an extensive review of the literature relating to continuing education, with particular emphasis on alumni education, and consultation with professional educators and staff members involved in alumni affairs, these variables were identified. Other variables could have been studied but a higher priority was placed on these four variables at Iowa State University.

Specific factors used to quantify these variables are identified in Chapter IV.

Independent variables: Independent variables used are the college in which alumni earned their first degree, era in which alumni earned their first degree, sex, marital status, occupation, salary, highest degree earned, college in which highest degree was earned, attendance at an institution of higher education in addition to Iowa State University, participation in student organizations and activities, membership in honor societies, participation in selected categories of community activities,

number of different community activities in which alumni participated, number of different leadership responsibilities assumed, participation in continuing education programs in 1969, selected topics of continuing education programs, expected participation in alumni continuing education programs, selected topics for alumni continuing education programs.

The selection of these variables was based on adult education studies such as Johnstone and Rivera (10) and other sociological participation studies, personal experience in adult education programs and availability of data. Specific subhypothesis tested are identified in Chapter IV.

## CHAPTER IV

## FINDINGS

This chapter is organized around the five specific objectives of the study. Under each objective the factors used to quantify the objective and the method used to secure the data are discussed. Specific findings are reported after each null hypothesis.

The divisions of this chapter are (1) Perception of Obligation, Need and Commitment to Continuing Education, (2) Present Level of Participation in Continuing Education Programs, (3) Needs and Interests Related to Alumni Continuing Education, (4) Responsibility for Alumni Continuing Education and (5) Types of Alumni Continuing Education Programs.

Perception of Obligation, Need and Commitment  
to Continuing Education

The perception of obligation, need and commitment of alumni to participate in continuing education programs was based on the following factors:

1. the recognition of the alumnus' obligation and need to continue his education.
2. the commitment to participate in programs planned specifically for Iowa State University alumni.

The first factor was based on the response to four agree-disagree questions. The second factor was determined by their response to whether they would participate in a continuing education program planned for Iowa State University alumni.

The null hypothesis was: There is no significant difference between the alumni's perception of their obligation, need and commitment to participate in continuing education when compared with categories of selected characteristics of alumni. Subhypotheses in the null form for each of the selected characteristics were tested.

#### Obligation and need to continue education

The four agree-disagree statements used to determine alumni's recognition of their obligation to continue the education were as follows:

1. As a college alumnus I have an obligation to continue my education in relation to my present occupation.
2. As a college alumnus I have an obligation to be alert and knowledgeable to problems, issues and concerns in areas other than those related to my occupation.
3. I need to participate in additional educational meetings or classes to help me continue my education in relation to my present occupation.
4. I need to participate in additional educational meetings or classes to help me to be alert and knowledgeable to problems, issues and concerns in areas other than those related to my occupation.

The respondents were asked to respond to the statements on a five point scale -- strongly agree, moderately agree, no opinion, moderately disagree, strongly disagree. To obtain the mean reaction scores the responses were weighted on a 5-4-3-2-1

basis with 5 being strongly agree.

The frequency counts, percentages and means for each of the four statements are reported in Table 2. The means for college and era are reported in Tables 3, 4, 5 and 6.

A total of 87.8% of the alumni indicated they felt they had an obligation to continue their education in relation to their present occupation, while 94.6% felt they had an obligation to be knowledgeable and alert to problems, issues and concerns in areas other than those related to their occupation. In response to the questions concerning a need for additional education, 79.1% indicated they needed additional occupational training and 79.3% agreed that they need additional training in nonoccupational areas.

To determine if a relationship existed between these four statements coefficients of correlation were calculated. The coefficients of correlation are:

statements 1 and 2	+	.328
3 and 4	+	.516
1 and 3	+	.595
2 and 4	+	.397

Significance at the .05 level is .065.

Eighteen subhypotheses in the null form were tested. The results of the analysis are presented after each of the subhypotheses.

SUBHYPOTHESIS 1: There is no significant difference between alumni's perception of their obligation and need to participate in continuing education programs when compared with the college

Table 2. Frequencies, percentages and means for reaction statements related to the obligation and need for continuing education

Statement	Strongly agree		Moderately agree		No opinion		Moderately disagree		Strongly disagree		Mean
	No.	%	No.	%	No.	%	No.	%	No.	%	
1	547	58.6	273	29.2	70	7.5	29	3.1	15	1.6	4.400
2	564	60.4	319	34.2	39	4.2	7	.7	5	.5	4.531
3	442	47.3	297	31.8	99	10.6	66	7.1	30	3.2	4.130
4	293	31.3	448	48.0	111	11.9	60	6.4	22	2.4	3.996

Table 3. Mean reaction scores related to obligation to continue education in occupational areas by college and era

ERA	AGR.	ENG.	H. Ec.	S&H	V.M.	TOTAL
1926-32	3.907	3.614	4.217	4.052	4.733	4.030
1933-40	4.370	4.378	4.143	4.149	4.743	4.340
1941-52	4.444	4.500	4.333	4.478	4.891	4.537
1953-65	4.689	4.571	4.493	4.414	4.902	4.599
Total	4.358	4.299	4.324	4.268	4.846	4.400

Table 4. Mean reaction scores related to obligation to continue education in nonoccupational areas by college and era

ERA	AGR.	ENG.	H. Ec.	S&H	V.M.	TOTAL
1926-32	4.419	4.308	4.609	4.465	4.200	4.438
1933-40	4.652	4.378	4.810	4.489	4.514	4.567
1941-52	4.356	4.637	4.537	4.609	4.491	4.525
1953-65	4.511	4.612	4.704	4.500	4.510	4.577
Total	4.486	4.492	4.662	4.512	4.474	4.531



Table 5. Mean reaction scores related to need for additional occupational education by college and era

ERA	AGR.	ENG.	H. Ec.	S&H	V.M.	TOTAL
1926-32	4.465	3.205	3.783	3.483	4.400	3.562
1933-40	3.979	3.733	3.952	3.809	4.514	3.972
1941-52	4.333	4.341	4.278	4.174	4.764	4.389
1953-65	4.356	4.388	4.366	4.362	4.746	4.438
Total	4.039	3.949	4.136	3.952	4.667	4.130

Table 6. Mean reaction scores related to need for additional nonoccupational education by college and era

ERA	AGR.	ENG.	H. Ec.	S&H	V.M.	TOTAL
1926-32	3.628	3.616	4.174	3.672	3.800	3.776
1933-40	3.913	3.978	4.048	3.574	4.200	3.926
1941-52	4.178	4.160	4.407	3.923	4.145	4.168
1953-65	3.956	4.041	4.198	3.949	4.098	4.058
Total	3.922	3.960	4.216	3.780	4.109	3.996

in which alumni earned their first degree at Iowa State University.

The null hypothesis was rejected at the .05 level for each of the four statements. There was a significant difference between alumni's perception of their obligation and need to participate in continuing education programs when compared with the college in which alumni earned their first degree at Iowa State University.

The mean reaction scores for each college are reported in Table 7. Alumni from the College of Veterinary Medicine ranked highest in their reaction to occupational related continuing education. Alumni from Engineering and the Sciences and Humanities ranked lowest.

Table 7. Mean reaction scores related to perception of obligation and need for continuing education by college

College	Mean Reaction Scores			
	Statements			
	1	2	3	4
Agriculture	4.358	4.487	4.039	3.912
Engineering	4.299	4.492	3.949	3.960
Home Economics	4.324	4.662	4.136	4.216
Sciences and Humanities	4.268	4.512	3.953	3.780
Veterinary Medicine	4.847	4.474	4.667	4.109
All alumni	4.400	4.531	4.130	3.996
F value	12.9891*	2.7726*	13.6529*	6.5998*

\*Significant at .05 level,  $F(4,929) = 2.3800$

The College of Home Economics alumni ranked highest in their reaction to nonoccupational related continuing education. Veterinary Medicine alumni rated their obligation to be alert and knowledgeable to problems, issues and concerns in nonoccupational areas low but they rated high the need to participate in additional educational meetings. Sciences and Humanities alumni rated their obligation high and their need low.

SUBHYPOTHESIS 2. There is no relationship between alumni's perception of their obligation and need to participate in continuing education programs and the era in which they earned their first degree at Iowa State University.

The null hypothesis was rejected at the .05 level for statement 1, 3 and 4. There was a significant negative relationship between alumni's perception of their obligation and need to participate in occupational continuing education programs and a need to participate in nonoccupational continuing education and the era in which they earned their first degree at Iowa State University. There was not a significant relationship between alumni's perception of their obligation to participate in nonoccupational continuing education and the era in which they earned their first degree at Iowa State University.

The coefficients of correlation for statement 1 was  $-.2363$ ; statement 2 was  $-.0607$ ; statement 3 was  $-.3116$ , and statement 4 was  $-.1216$ . Significance at the .05 level is .0650.

Alumni from the more recent eras have higher mean reaction scores. The scores are reported in Tables 3, 4, 5 and 6.

SUBHYPOTHESIS 3: There is no significant difference between alumni's perception of their obligation and need to participate in continuing education programs when compared with sex.

The null hypothesis was rejected for statements 1, 2, 3 and not rejected for statement 4 at the .05 level. There was a significant difference between the alumni's perception of their obligation and need for occupational continuing education and obligation for nonoccupational continuing education programs when related to sex. There was no significant difference between the alumni's perception of their need for nonoccupational continuing educational programs when compared with sex.

Male alumni have higher mean reaction scores related to occupational continuing education. Females have higher mean reaction scores related to nonoccupational programs. The specific mean reaction scores are reported in Table 8.

SUBHYPOTHESIS 4: There is no significant difference between alumni's perception of their obligation and need to participate in continuing education programs when compared with the marital status of alumni.

The null hypothesis was not rejected. There was no significant difference between alumni's perception of their obligation and need to participate in continuing education programs when compared with the marital status of alumni.

Specific mean reaction scores are reported in Table 9. No consistent pattern of reactions was evident.

Table 8. Mean reaction scores related to perception of obligation and need for continuing education by sex

Sex	No.	Mean Reaction Scores			
		1	2	3	4
Male	658	4.459	4.498	4.190	3.960
Female	276	4.261	4.609	3.986	4.080
All alumni	934	4.400	4.531	4.130	3.996
F value		10.0073*	5.3657*	7.2067*	3.0692

\*Significant at .05 level,  $F(1,932) = 3.8500$

Table 9. Mean reaction scores related to perception of obligation and need for continuing education by marital status

Marital Status	Mean Reaction Scores			
	1	2	3	4
Single	4.514	4.541	4.135	3.703
Married	4.415	4.562	4.109	4.018
Divorced	4.500	4.333	4.167	4.167
Widowed	4.286	4.381	4.000	3.952
Not known	4.337	4.442	4.216	3.974
All alumni	4.400	4.531	4.130	3.996
F value*	0.5562	1.6187	0.4540	1.0559

\*Significant at .05 level,  $F(4,929) = 2.6100$

SUBHYPOTHESIS 5: There is no significant difference between alumni's perception of their obligation and need to participate in continuing education programs when compared with the occupation of alumni.

The null hypothesis was rejected for all four statements. There was a significant difference between alumni's perception of their obligation and need to participate in continuing education programs when compared with the occupation of alumni. The mean reaction scores are reported in Table 10.

SUBHYPOTHESIS 6: There is no relationship between alumni's perception of their obligation and need to participate in continuing education programs and salary level.

The null hypothesis was rejected at .05 level for statement 1 and 3. There was a significant negative relationship between alumni's perception of their obligation and need to participate in occupational continuing education programs and salary level.

The null hypothesis was not rejected at the .05 level for statements 2 and 4. There was no significant relationship between alumni's perception of their obligation and need to participate in nonoccupational continuing education programs and salary level.

The coefficients of correlation for statement 1 was  $-.1555$ ; statement 2 was  $-.0447$ ; statement 3 was  $-.1159$  and statement 4 was  $-.0534$ . Significance at the .05 level is .0650.

The mean scores are reported in Table 11.

Table 10. Mean reaction scores related to perception of obligation and need to continue education by occupation

Occupational groups	Mean reaction scores			
	1	2	3	4
Veterinary Medicine	4.844	4.489	4.702	4.156
Home Economics	4.750	4.583	4.833	4.417
Military	4.750	3.000	4.500	3.250
Education	4.691	4.655	4.406	4.248
Agricultural Sciences	4.636	4.192	4.182	3.636
Sales	4.571	4.619	4.048	3.714
Journalism	4.571	4.857	4.573	3.571
Science	4.500	4.083	4.250	3.417
Farming	4.324	4.405	3.946	3.811
Engineering	4.316	4.368	3.982	3.000
Business	4.315	4.631	3.923	3.946
Not presently employed	4.031	4.417	3.802	4.052
Professions	3.000	4.667	4.222	3.333
Not known	4.112	4.543	3.841	3.853
All alumni	4.400	4.531	4.130	3.996
F value	8.9390*	2.3786*	7.7718*	3.2914*

\*Significant at .05 level,  $F_{(13,920)} = 1.7000$

Table 11. Mean reaction scores related to the perception of obligation and need for continuing education by salary level.

Salary level	Mean reaction scores			
	1	2	3	4
Below \$5,000	3.000	4.385	3.538	3.692
\$5,000 - \$7,499	3.000	4.448	3.793	3.793
\$7,500 - \$9,999	4.484	4.391	4.094	4.078
\$10,000 - \$12,499	4.431	4.583	4.236	4.042
\$12,500 - \$14,999	4.410	4.462	4.090	3.974
\$15,000 - \$24,999	4.658	4.606	4.342	4.097
\$25,000 - \$49,999	4.633	4.592	4.429	4.102
Above \$50,000	4.700	4.900	4.500	3.900
Not known	4.302	4.524	4.052	3.959
All alumni	4.400	4.531	4.130	3.996

SUBHYPOTHESIS 7: There is no significant difference between alumni's perception of their obligation and need to participate in continuing education programs when compared with the highest degree earned by alumni.

The null hypothesis was rejected at the .05 level for statements 1 and 3 but not for statements 2 and 4. There was a significant difference between alumni's perception of their obligation and need to participate in occupational and nonoccupational continuing education when compared with the highest



degree earned by alumni. There was no significant difference in their perception of their obligation and need for nonoccupational training. The mean reaction scores are reported in Table 12.

SUBHYPOTHESIS 8: There is no significant difference between alumni's perception of their obligation and need to participate in continuing education programs when compared with the college in which the highest degree was earned.

The null hypothesis was rejected at the .05 level for statements 1, 3 and 4. There was a significant difference between alumni's perception of their obligation and need for occupational continuing education and the need for nonoccupational continuing education when compared with the college in which the highest degree was earned. There was no significant difference between alumni's perception of their obligation for nonoccupational continuing education when compared with the college in which the highest degree was earned.

The College of Veterinary Medicine and Education<sup>1</sup> alumni were among those with the highest means. The mean reaction scores are reported in Table 13.

---

<sup>1</sup>Alumni earning advanced degrees in Education since the formation of the College of Education are listed as College of Education alumni. Prior to this formation of the College of Education they were included in other colleges, primarily the College of Agriculture.

Table 12. Mean reaction scores related to perception of obligation and need for continuing education by highest degree earned

Degree	No.	Mean reaction scores			
		Statements			
		1	2	3	4
BS	583	4.298	4.549	4.022	3.989
MS	97	4.495	4.578	4.103	3.969
PhD, EdD	38	4.921	4.553	4.526	4.026
DVM	144	4.833	4.458	4.660	4.132
MA	8	4.500	4.500	4.125	4.125
JD, MD	5	4.400	4.800	4.800	2.000
Certificates	10	3.900	4.200	3.000	3.900
No degree	49	3.837	4.469	3.551	3.796
All alumni	934	4.400	4.531	4.130	3.996
F value		12.5791*	0.9119	9.6537*	1.5798

\*Significant at .05 level,  $F_{(7,926)} = 2.020$

SUBHYPOTHESIS 9: There is no significant difference between alumni's perception of their obligation and need to participate in continuing education programs when compared with whether alumni attended an institution of higher learning in addition to Iowa State University.

The null hypothesis was not rejected at the .05 level for all four statements. There was no significant difference between alumni's perception of their obligation and need to

Table 13. Mean reaction scores related to perception of obligation and need for continuing education by college in which highest degree was earned

College	No.	Mean reaction scores			
		Statements			
		1	2	3	4
Agriculture	182	4.390	4.522	4.033	3.929
Engineering	171	4.292	4.491	3.965	3.971
Home Economics	212	4.325	4.660	4.127	4.208
Sciences and Humanities	194	4.237	4.479	3.897	3.763
Veterinary Medicine	157	4.841	4.478	4.669	4.115
Education	2	4.500	4.500	4.500	4.500
Not known	16	4.312	4.500	4.500	3.812
All alumni	934	4.400	4.531	4.130	3.996
F value		8.8627*	1.8236	10.0925*	4.5763

\*Significant at .05 level,  $F_{(6,927)} = 2.6100$

participate in continuing education programs when compared with whether alumni attended an institution of higher learning in addition to Iowa State University. The mean reaction scores are reported in Table 14.

The mean reaction scores for the alumni who have attended institutions of higher learning in addition to Iowa State University were higher except for the statement regarding needing more nonoccupational training.

Table 14. Mean reaction scores related to perception of obligation and need for continuing education by attendance at institutions of higher learning in addition to Iowa State University

	No.	Mean Reaction Scores			
		Statements			
		1	2	3	4
ISU only	880	4.393	4.531	4.123	4.002
ISU and other institutions	54	4.519	4.537	4.241	3.889
All alumni	934	4.400	4.531	4.130	3.996
F values*		1.0384	0.0050	0.6238	0.7245

\*Significant at .05 level,  $F(1,932) = 3.8500$

SUBHYPOTHESIS 10: There is no significant difference between alumni's perception of their obligation and need to participate in continuing education programs when compared with whether alumni participated in student organizations or activities.

The null hypothesis was rejected at the .05 level for statements 1, 3 and 4 and was not rejected for statement 2. There was a significant difference between the alumni's perception of their obligation and need to participate in occupationally oriented continuing education programs when compared with whether alumni participated in student organizations and activities. There was no significant difference in their perception of their obligation to participate in nonoccupational programs.

The alumni known to have participated in student organizations and activities had lower mean scores. The mean reaction scores are reported in Table 15.

SUBHYPOTHESIS 11: There is no significant difference between alumni's perception of their obligation and need to participate in continuing education programs when compared with whether alumni were members of honor societies.

The null hypothesis was rejected at the .05 level for statement 1. There was a significant difference between alumni's perception of their obligation to participate in occupational continuing education when compared with whether alumni were members of honor societies.

The null hypothesis was not rejected at the .05 level for statements 2, 3 and 4. There was no significant difference between alumni's perception of their need to participate in occupational continuing education and their obligation and need to participate in nonoccupational continuing education when compared with whether alumni were members of honor societies.

Although the difference was not always significant those alumni who were members of honor societies had higher mean reaction scores. These scores are reported in Table 16.

SYBHYPOTHESIS 12: There is no significant difference between alumni's perception of their obligation and need to participate in continuing education programs when compared with their

Table 15. Mean reaction scores related to perception of obligation and need for continuing education by participation in student organizations and activities

	Mean Reaction Scores			
	Statements			
	1	2	3	4
Participated	4.311	4.508	4.066	3.936
Did not participate	4.536	4.566	4.226	4.086
All alumni	4.400	4.531	4.130	3.996
F value	15.0009*	1.7050	5.1084*	5.6177*

\*Significant at the .05 level,  $F_{(1,932)} = 3.8500$

Table 16. Mean reaction scores related to perception of obligation and need to continue education by membership in honor societies

	Mean reaction scores			
	Statements			
	1	2	3	4
Member	4.629	4.582	4.271	4.059
Nonmember	4.349	4.520	4.098	3.982
All alumni	4.400	4.531	4.130	3.996
F values	14.3570*	1.2369	3.6514	0.9168

\*Significant at .05 level,  $F_{(1,932)} = 3.8500$

their participation in community activities.

The following categories of community activities were listed:

- Service clubs (Kiwanis, Rotary, etc.)
- Chamber of Commerce, Jaycees
- Professional society or association
- Church groups
- Youth groups
- Iowa State University Alumni Association
- School groups (PTA, school board, etc.)
- Fraternal organizations (Elks, Moose, etc.)
- Political groups
- Special interest groups (study group, garden, federated, hobby, recreational)

Respondents were asked to indicate whether they were a member and whether they were an officer or held a major committee chairmanship in community activities. There was no attempt to enumerate the number of different groups within a category or the number of different leadership positions. A report of the frequency count and the percent of alumni involved in each category is reported in Appendix C.

An analysis was made for each category and statement. The result of this analysis is reported in Table 17.

Table 17. Mean reaction scores related to obligation and need to continuing education by categories of community activities

Community Activities	Statement 1				Statement 2			
	Non-mbrs.	Mbrs.	Mbrs. with leadership positions	F value	Non-mbrs.	Mbrs.	Mbrs. with leadership positions	F value
Service clubs	4.357	4.492	4.585	3.8958*	4.525	4.549	4.548	.1006
Chamber of Commerce groups	4.358	4.537	4.621	4.3369*	4.518	4.575	4.603	.7844
Professional societies	4.095	4.657	4.708	59.0303*	4.484	4.554	4.607	2.4004
Church groups	4.307	4.447	4.443	2.5334	4.447	4.553	4.590	3.8254*
Youth groups	4.364	4.531	4.477	3.5462*	4.513	4.630	4.588	1.5143
ISU alumni groups	4.355	4.521	4.722	4.1979*	4.505	4.600	4.722	2.449
School groups	4.360	4.506	4.617	3.7443*	4.507	4.649	4.517	2.9362
Fraternal organizations	4.394	4.433	4.369	.2109	4.517	4.553	4.583	.5115
Political groups	4.375	4.468	4.553	1.4270	4.518	4.538	4.737	1.9628
Special interest groups**	4.414	4.315	4.504	2.0109	4.483	4.609	4.615	4.0927*

\*Significant at .05 level,  $F_{(2,931)} = 3.000$

\*\*Includes study groups, garden clubs, federated clubs, hobby and recreation groups



Table 17 (Continued).

Community Activities	Statement 3				Statement 4			
	Non- mbrs.	Mbrs.	Mbrs. with leadership positions	F value	Non- mbrs.	Mbrs.	Mbrs. with leadership positions	F value
Service clubs	4.076	4.230	4.363	4.0914*	3.966	3.000	4.189	2.5415
Chamber of Commerce groups	4.073	4.313	4.431	5.4209*	3.964	4.127	4.103	2.0784
Professional societies	3.800	4.337	4.571	45.5429*	3.369	4.054	4.208	8.8657*
Church groups	3.957	4.161	4.266	6.6577*	3.713	4.049	4.216	23.0323*
Youth groups	4.195	4.346	4.299	3.5830*	3.938	4.198	4.279	7.6313*
ISU alumni groups	4.066	4.302	4.556	5.5808*	3.929	4.191	4.278	7.1611*
School groups	4.042	4.370	4.567	11.6843*	3.926	4.201	4.300	8.7442*
Fraternal organizations	4.140	4.115	4.093	.1290	3.974	4.010	4.131	1.0486
Political groups	4.115	4.129	4.295	1.2392	3.954	4.065	4.447	5.5363*
Special interest groups**	4.131	4.072	4.239	.9596	3.931	4.055	4.197	4.4496*

Statement 1. The null hypothesis was rejected at the .05 level for the following community activities: service clubs, chamber of commerce groups, professional societies and Iowa State University alumni groups. There was a significant difference between alumni's perception of their obligation to participate in occupational continuing education programs when compared with their participation in community activities.

The null hypothesis was not rejected at the .05 level for the other community activities. There was no significant difference between alumni's perception of their obligation to participate in occupational continuing education programs when compared with their participation in community activities.

Members and members with leadership responsibilities had higher mean reaction scores than nonmembers except for alumni involved in fraternal organizations and in special interest groups. Members with leadership responsibilities tended to have the highest mean reaction scores.

Statement 2. The null hypothesis was not rejected at the .05 level for all community activities except special interest groups. There was no significant difference between alumni's perception of their obligation to participate in nonoccupational continuing education programs when compared with their participation in community activities.

Members and members with leadership responsibilities had higher mean reaction scores than nonmembers but this difference was not significant except for special interest groups. The

members with leadership responsibilities tended to have the highest mean reaction scores.

Statement 3. The null hypothesis was rejected at the .05 level for the following activities: service clubs, chamber of commerce groups, professional societies, church groups, Iowa State University alumni groups and school groups.

There was a significant difference between alumni's perception of their need to participate in occupational continuing education programs when compared with their participation in community activities.

The null hypothesis was not rejected at the .05 level for the following community activities: youth groups, fraternal organizations, political groups and special interest groups. There was no significant difference between alumni's perception of their need to participate in occupational continuing education programs when compared with their participation in community activities. Members with leadership responsibilities had the highest mean reaction scores except for those alumni in youth groups and fraternal organizations. Nonmembers generally had the lowest mean reaction scores.

Statement 4. The null hypothesis was rejected at the .05 level for the following community activities: professional societies, church groups, youth groups, Iowa State University alumni groups, school groups, political groups and special interest groups. There was a significant difference between alumni's perception of their need to participate in

nonoccupational continuing education programs when compared with their participation in selected community activities.

The null hypothesis was not rejected at the .05 level for the following community activities: service clubs, chamber of commerce groups and fraternal organizations. There was a significant difference between alumni's perception of their need to participate in nonoccupational continuing education programs when compared with their participation in selected community activities.

Members with leadership responsibilities had the highest mean reaction scores with the exception of chamber of commerce groups and nonmembers tended to have the lowest scores.

SUBHYPOTHESIS 13: There is no relationship between alumni's perception of their obligation and need to participate in continuing education programs and the number of different community activities in which alumni participated.

The null hypothesis was rejected at the .05 level for all four statements. There was a significant positive relationship between alumni's perception of their obligation and need to participate in continuing education programs and the number of different community activities in which alumni participated.

The coefficients of correlation for statement 1 was  $+.1392$ ; statement 2 was  $+.1237$ ; statement 3 was  $+.1968$ ; statement 4 was  $+.2177$ . Significance at the .05 level is  $.0650$ .

As the number of different community activities increase the mean reaction scores increase. The alumni who are more

active in community activities place a higher value on continuing education. The mean reaction scores are reported in Table 18.

**SUBHYPOTHESIS 14:** There is no relationship between alumni's perception of their obligation and need to participate in continuing education programs and the number of different leadership responsibilities assumed by alumni.

The null hypothesis was rejected at the .05 level for all four statements. There was a significant positive relationship between alumni's perception of their obligation and need to participate in continuing education programs and the number of different leadership responsibilities assumed by alumni.

The coefficients of correlation for statement 1 was +.1285; statement 2 was +.0861; statement 3 was +.1665; statement 4 was +.1932. Significance at the .05 level is .0650.

Mean reaction scores are reported in Table 19. As the number of leadership responsibilities increase the mean reaction scores increase indicating a higher value being placed on continuing education.

**SUBHYPOTHESIS 15:** There is no significant difference between alumni's perception of their obligation and need to participate in continuing education programs when compared with whether they participated in adult or continuing education programs in 1969.

Table 18. Mean reaction scores related to the perception of obligation and need for continuing education by number of different community activities

Number of different community activities	Mean reaction scores			
	1	2	3	4
None	3.890	4.171	3.524	3.451
1	4.353	4.500	3.948	3.733
2	4.359	4.553	4.135	3.976
3	4.373	4.541	4.114	4.016
4	4.462	4.614	4.228	4.172
5	4.500	4.564	4.223	4.021
6	4.766	4.641	4.562	4.328
7	4.587	4.543	4.304	4.326
8	4.737	4.684	4.684	4.526
9 or more	4.615	4.692	4.385	3.000
All alumni	4.400	4.531	4.130	3.996

The null hypothesis was rejected at the .05 level for all four statements. There was a significant difference between alumni's perception of their obligation and need to participate in continuing education programs when compared with whether they participated in adult or continuing education programs in 1969.

Alumni who participated in adult or continuing education

Table 19. Mean reaction scores related to the perception of obligation and need for continuing education by number of leadership responsibilities assumed

Number of leadership responsibilities	Mean reaction scores			
	Statements			
	1	2	3	4
None	4.278	4.469	3.933	3.804
1	4.455	4.554	4.197	4.026
2	4.475	4.562	4.263	4.162
3	4.560	4.655	4.405	4.250
4	4.406	4.562	4.375	4.406
5	4.000	4.600	4.700	4.400
6	4.778	4.667	4.556	4.333
7	4.000	4.000	4.000	4.000
8	4.000	4.000	3.000	3.000
All alumni	4.400	4.531	4.130	3.996

programs had a higher mean reaction score than those who did not participate. The mean reaction scores are listed in Table 20.

SUBHYPOTHESIS 16: There is no significant difference between alumni's perception of their obligation and need to participate in continuing education programs when compared with the topics of the adult or continuing education programs in which alumni participated.

Table 20. Mean reaction scores related to perception of obligation and need for continuing education by participation in continuing education programs

	No.	Mean Reaction Scores			
		1	2	3	4
Participated	545	4.631	4.591	4.448	4.223
Did not participate	389	4.077	4.447	3.684	3.679
All alumni	934	4.400	4.531	4.130	3.996
F values		100.1380*	10.6829*	133.1900*	80.5928*

\*Significant at .05 level,  $F_{(1,932)} = 3.8500$

Alumni were asked to indicate whether they had participated, during 1969, in adult or continuing education programs which involved the following topics:

New or refresher information for your occupation

Homemaking information

Child or human development

World or international affairs

Community problems and/or action

Preparing for retirement

Recreation and physical fitness

Investments, insurance, estate planning

Arts, crafts, hobbies

Leadership



Foreign language

Religious training

Other (please specify)

The frequency counts are reported in Table 21. An analysis was made of responses for each topic for each statement. The mean reaction scores, F values and level of significance are reported in Tables 22.

Statement 1. The null hypothesis was rejected at the .05 level for the following topics: new or refresher information for your occupation, child or human development, world or international affairs, community problems and/or action, investments and insurance and estate planning, and leadership.

There was a significant difference between alumni's perception of their obligation to participate in occupational related continuing education programs when compared with the above topics of adult or continuing education programs in which alumni participated.

The null hypothesis was not rejected at the .05 level for the following topics: homemaking information, preparing for retirement, recreation and physical fitness, arts and crafts and hobbies, foreign language, and religious training.

There was no significant difference between alumni's perception of their obligation to participate in occupational related continuing education programs when compared with the selected topics of continuing education programs in which alumni participated.

Table 21. Participation in continuing education programs by subject matter areas

Subject matter	Number	Per cent
New or refresher occupational information	395	42.3
Homemaking information	54	5.8
Child or human development	32	3.4
World or international affairs	30	3.2
Community problems and/or action	111	11.9
Preparing for retirement	27	2.9
Recreation and physical fitness	55	5.9
Investments, insurance estate planning	102	10.9
Arts, crafts, hobbies	72	7.7
Leadership	79	8.6
Foreign language	11	1.2
Religious training	92	9.9

Statement 2. The null hypothesis was rejected at the .05 level for the following topics: new and refresher information for your occupation, world or international affairs, preparing for retirement, community problems and/or action, investments and insurance and estate planning, and leadership.

Table 22. Mean reaction scores related to perception of obligation and need for continuing education by topics of programs in which alumni participated

Topic	Statement 1			Statement 2		
	Mean Reaction Scores Participated	Did not participate	F value	Mean Reaction Scores Participated	Did not participate	F value
New or refresher occupational information	4.770	4.130	139.1340*	4.597	4.482	6.8704*
Homemaking information	4.407	4.400	0.0038	4.593	4.482	0.4911
Child and human development	4.750	4.388	5.2839*	4.687	4.525	1.8356
World or international affairs	4.833	4.386	7.5994*	4.867	4.520	7.9540*
Community problems and/or action	4.604	4.373	6.7974*	4.667	4.512	5.2631*
Preparing for retirement	4.667	4.393	2.5646	4.852	4.521	6.5090*
Recreation and physical fitness	4.509	4.394	0.8965	4.691	4.521	3.3856
Investment, insurance, estate planning	4.853	4.345	31.4520*	4.735	4.506	10.9166*
Arts, crafts and hobbies	4.389	4.401	0.0136	4.653	4.521	2.6186
Leadership	4.646	4.378	6.7787*	4.696	4.516	5.3478*
Foreign language	4.636	4.398	0.8047	4.727	4.529	0.9694
Religious training	4.554	4.384	3.1478	4.533	4.531	0.0006

\*Significant at .05 level,  $F_{(1,932)} = 3.8500$

Table 22 (Continued).

Topic	Statement 3			Statement 4		
	Mean Reaction Scores		F value	Mean Reaction Scores		F value
	Participated	Did not participate		Participated	Did not participate	
New or refresher occupational information	4.608	3.779	161.4604*	4.241	3.816	47.7240*
Homemaking information	4.315	4.118	1.7340	4.313	3.976	6.5049*
Child or human development	4.656	4.111	8.1581*	4.344	3.983	4.4638*
World or international affairs	4.500	4.117	3.7575	4.467	3.980	7.6724*
Community problems and/or action	4.477	4.083	13.6121*	4.333	3.950	16.1695*
Preparing for retirement	4.444	4.120	2.4320	4.444	3.982	6.2387*
Recreation and physical fitness	4.418	4.111	4.3035*	4.900	3.983	2.7076
Investment, insurance, estate planning	4.520	4.082	15.5837*	4.373	3.930	18.3525*
Arts, crafts and hobbies	4.250	4.119	0.9969	4.111	3.986	1.1510
Leadership	4.506	4.095	10.9048*	4.430	3.956	18.4042*
Foreign language	3.909	4.132	0.4762	4.000	3.996	0.0003
Religious training	4.522	4.087	14.0181*	4.391	3.952	18.0194*

There was a significant difference between the alumni's perception of their obligation to participate in nonoccupational related continuing education programs when compared with selected topics of continuing education programs in which alumni participated.

The null hypothesis was not rejected at the .05 level for the other topics. There was no significant difference between alumni's perception of their obligation to participate in non-occupational related continuing education programs when compared with selected topics of continuing education programs in which alumni have participated.

Statement 3. The null hypothesis was rejected at the .05 level for the following topics: new and refresher information for your occupation, child or human development, community problems and/or action, recreation and physical fitness, investments and insurance and estate planning, leadership and religious training.

There was a significant difference between alumni's perception of their need to participate in more education programs related to their occupation when compared with selected topics of adult or continuing education programs in which alumni have participated.

The null hypothesis was not rejected at the .05 level for the other topics. There was no significant difference between alumni's perception of their need to participate in more educational programs related to their occupation when compared with

selected topics of adult or continuing education in which alumni participated.

Statement 4. The null hypothesis was rejected at the .05 level for all topics except recreation and physical fitness, arts and crafts and hobbies and foreign language.

There was a significant difference between alumni's perception of their need to participate in more nonoccupational continuing education programs when compared with selected topics of adult or continuing education programs in which alumni participated.

SUBHYPOTHESIS 17: There is no relationship between alumni's perception of their obligation and need to participate in continuing education programs and their expected participation in alumni continuing education programs.

The null hypothesis was rejected at the .05 level for all four statements. There was a significant positive relationship between alumni's perception of their obligation and need to participate in continuing education programs and their expected participation in alumni continuing education programs.

The coefficients of correlation for statement 1 was +.3438; statement 2 was +.1612; statement 3 was +.3932; statement 4 was +.3440. Significance at the .05 level is .0650.

The mean reaction scores are reported in Table 23. Alumni indicating they definitely did not plan to participate

Table 23. Mean reaction scores related to the perception of obligation and need to continue education by expected participation in alumni continuing education

Expected participation	Mean reaction scores			
	Statements			
	1	2	3	4
Yes	4.646	4.622	4.484	4.287
Maybe	4.422	4.532	4.136	3.974
Definitely not	3.636	4.267	3.192	3.229
All alumni	4.400	4.531	4.120	3.996

in alumni continuing education programs had the lowest mean scores. As their intention to participate increases their perception of obligation and need to continue education increases.

SUBHYPOTHESIS 18: There is no significant difference between alumni's perception of their obligation and need to participate in continuing education programs when compared with the topics of alumni continuing education programs in which alumni indicated they would like to participate.

The alumni who indicated they would be interested in alumni continuing education programs planned for Iowa State University alumni were asked to check program topics in which they would be interested in attending. Eleven topics were listed for their consideration. The frequencies are reported in Table 24. Means and F values are reported in Table 25.

Statement 1. The null hypothesis was rejected at the .05

Table 24. Preference of topics for future alumni continuing education programs

Topics	Number	Per cent
New or refresher occupational information	563	60.3
Homemaking information	119	12.7
Child or human development	118	12.6
World or international affairs	177	19.0
Community problems and/or action	317	33.9
Preparing for retirement	154	16.5
Recreation and physical fitness	128	13.7
Investments, insurance, estate planning	278	29.8
Arts, crafts, hobbies	183	19.6
Leadership	109	11.7
Foreign language	62	6.6

level for the following topics: new or refresher information for your occupation, child or human development, community problems and/or action, recreation and physical fitness, investments and insurance and estate planning, and leadership.

There was a significant difference between alumni's perception of their obligation to participate in occupational continuing education programs when compared with the above topics of alumni continuing education programs in which alumni indicated they would like to participate.

The null hypothesis was not rejected at the .05 level for



Table 25. Mean reaction scores related to perception of obligation and need for continuing education by topics for future alumni continuing education programs

Topic	Statement 1			Statement 2		
	Mean Reaction Scores		F value	Mean Reaction Scores		F value
	Participated	Did not participate		Participated	Did not participate	
New or refresher occupational information	4.652	4.019	132.8489*	4.678	4.474	4.4835*
Homemaking information	4.370	4.405	0.1667	4.605	4.520	1.6900
Child or human development	4.585	4.374	5.9929*	4.653	4.513	4.5252*
World or international affairs	4.514	4.374	3.6776	4.791	4.470	34.5598*
Community problems and/or action	4.533	4.332	11.0947*	4.662	4.464	19.1019*
Preparing for retirement	4.370	4.406	0.2196	4.487	4.540	0.8081
Recreation and physical fitness	4.461	4.391	0.7054	4.539	4.530	0.0215
Investment, insurance, estate planning	4.550	4.337	11.6903*	4.612	4.497	5.8239*
Arts, crafts and hobbies	4.393	4.402	0.0143	4.672	4.497	10.3462*
Leadership	4.706	4.360	15.2384*	4.697	4.509	7.7639*
Foreign language	4.484	4.394	0.6007	4.661	4.522	2.5515

\*Significant at .05 level,  $F(1,932) = 3.8500$

Table 25 (Continued).

Topic	Statement 3			Statement 4		
	Mean Reaction Scores		F value	Mean Reaction Scores		F value
	Participated	Did not participate		Participated	Did not participate	
New or refresher occupational information	4.504	3.561	215.8459*	4.151	43.770	39.4185*
Homemaking information	4.286	4.107	2.9352	4.277	3.955	12.1256*
Child or human development	4.466	4.081	13.6566*	4.373	3.941	21.7639*
World or international affairs	4.215	4.110	1.3946	4.271	3.931	18.7115*
Community problems and/or action	4.325	4.029	16.3982*	4.309	3.835	55.2761*
Preparing for retirement	4.026	4.150	1.7435	4.143	3.967	4.4400*
Recreation and physical fitness	4.172	4.123	0.2338	4.039	3.989	0.3084
Investment, insurance, estate planning	4.241	4.082	4.3462*	4.183	3.916	15.7015*
Arts, crafts and hobbies	4.186	4.116	0.6337	4.147	3.959	5.8431*
Leadership	4.560	4.073	20.5244*	4.321	3.953	14.6897*
Foreign language	4.242	4.122	0.7386	3.000	3.995	0.0014

the following topics: homemaking information, world or international affairs, preparing for retirement, arts and crafts and hobbies, and foreign language.

There was no significant difference between alumni's perception of their obligation to participate in occupational continuing education programs when compared with the above topics of alumni continuing education programs in which alumni indicated they would like to participate.

Statement 2. The null hypothesis was rejected at the .05 level for the following topics: new and refresher information for your occupation, child or human development, world or international affairs, community problems and/or action, investments and insurance and estate planning, arts and crafts and hobbies, and leadership.

There was a significant difference between alumni's perception of their obligation to participate in nonoccupational continuing education programs when compared with the above topics of alumni continuing education programs in which alumni indicated they would like to participate.

The null hypothesis was not rejected at the .05 level for the following topics: homemaking information, planning for retirement, foreign language, and recreation and physical fitness.

There was no significant difference between alumni's perception of their obligation to participate in nonoccupational continuing education programs when compared with the topics of

alumni continuing education programs in which alumni indicated they would like to participate.

Statement 3. The null hypothesis was rejected at the .05 level for the following topics: new and refresher information for your occupation, child or human development, community problems and/or action, investments and insurance and estate planning, and leadership.

There was a significant difference between alumni's perception of their need to participate in additional occupational continuing education programs when compared with the above topics of alumni continuing education programs in which alumni indicated they would like to participate.

The null hypothesis was not rejected at the .05 level for the following topics: homemaking information, world or international affairs, preparing for retirement, recreation and physical fitness, arts and crafts and hobbies, and foreign language.

There was no significant difference between alumni's perception of their need to participate in additional occupational alumni continuing education programs when compared with the above topics of alumni continuing education programs in which alumni indicated they would like to participate.

Statement 4. The null hypothesis was rejected at the .05 level for the following topics: new and refresher information for your occupation, homemaking information, child or human development, world or international affairs, community problems

and/or action, preparing for retirement, investments and insurance and estate planning, arts and crafts and hobbies, and leadership.

There was a significant difference between alumni's perception of their need to participate in nonoccupational continuing education programs when compared with the above topics of alumni continuing education programs in which alumni indicated they would like to participate.

The null hypothesis was not rejected at the .05 level for the following topics: foreign language, and recreation and physical fitness.

There was no significant difference between alumni's perception of their need to participate in nonoccupational continuing education programs when compared with the above topics of alumni continuing education programs in which alumni indicated they would like to participate.

#### Commitment to participate

In response to whether they would participate in a continuing education program planned for Iowa State University alumni, if the topic was of interest to them, the 934 alumni participating responded as follows:

Yes	--	376	--	40.3%
Maybe	--	427	--	45.7%
No	--	131	--	14.0%

When considering "yes" and "maybe" answers together, 86% of the alumni indicated they would like to participate in

continuing education programs planned for Iowa State University alumni. The percentage of alumni indicating an interest in participating in alumni continuing education programs is reported by college and era in Table 26. The mean level of expected participation scores were obtained by assigning numerical values of 3-2-1 to the Yes - Maybe - Definitely No responses. "Yes" was given the value of 3.

Table 26. Percent of alumni interested in alumni continuing education program by college and era

ERA		AGR.	ENG.	H. Ec.	S&H	V.M.	TOTAL
1926-32	Yes*	69.8	51.2	82.6	67.3	86.7	69.8
	No	30.2	48.7	17.4	32.8	13.3	30.2
1933-40	Yes	82.6	80.0	85.7	70.2	94.3	81.9
	No	17.4	20.0	14.3	29.8	5.7	18.1
1941-52	Yes	91.1	88.7	98.1	87.0	96.4	92.6
	No	8.9	11.4	1.9	13.0	3.6	7.4
1953-65	Yes	96.6	89.8	100.0	94.8	94.1	95.3
	No	4.4	10.2	0.0	5.2	5.9	4.7
Total	Yes	84.9	78.6	93.0	79.9	94.2	86.0
	No	15.1	21.4	7.0	20.1	5.8	14.0

\*Alumni answering the question Yes and Maybe are combined into one group

Seventeen subhypotheses in the null form were tested. The results of the analysis are reported following each subhypothesis.

SUBHYPOTHESIS 1: There is no significant difference between the commitment to participate in alumni continuing education programs when compared with the college in which the alumni earned their first degree at Iowa State University.

The null hypothesis was rejected at the .05 level. There was a significant difference between the commitment to participate in alumni continuing education programs when compared with the college in which they earned their first degree at Iowa State University. The F value was 13.4889 where significance at the .05 level (4,929) is 2.3800.

The mean level of expected participation of alumni for each college was:

Agriculture	2.268
Engineering	2.113
Home Economics	2.329
Sciences and Humanities	2.095
Veterinary Medicine	2.558
All alumni	2.262

SUBHYPOTHESIS 2: There is no relationship between the commitment to participate in alumni continuing education programs and the era in which the alumni earned their first degree at Iowa State University.

The null hypothesis was rejected at the .05 level. There was a significant positive relationship between the commitment to participate in alumni continuing education programs and the

era in which the alumni earned their first degree at Iowa State University. The coefficient of correlation was  $+0.2212$  where significance at the  $.05$  level is  $.0650$ .

Expected participation is correlated with the era of graduation. The alumni from more recent eras indicate they would participate more than the alumni who graduated in the older eras. The mean level of participation of alumni for each era was:

1926-32	1.950
1933-40	2.246
1941-52	2.410
1953-65	2.372
All alumni	2.262

SUBHYPOTHESIS 3: There is no significant difference between the commitment to participate in alumni continuing education programs when compared with sex.

The null hypothesis was not rejected at the  $.05$  level. There was no significant difference between the commitment to participate in alumni continuing education when compared with sex. The F value was  $0.7643$  where significance at the  $.05$  level ( $1,932$ ) is  $3.8500$ .

The male alumni had a mean level of expected participation of  $2.275$  while the level for females was  $2.232$ . Although men indicated they would participate more than women, this difference was not significant.



SUBHYPOTHESIS 4: There is no significant difference between the commitment to participate in alumni continuing education programs when compared with the marital status of alumni.

The null hypothesis was not rejected at the .05 level. There was no significant difference between the commitment to participate in alumni continuing education programs when compared with the marital status of alumni. The F value was 0.3306 where significance at the .05 level (4,929) is 2.6100.

The mean level of expected participation scores are:

Single	2.270
Married	2.267
Divorced	2.333
Widowed	2.095

SUBHYPOTHESIS 5: There is no significant difference between the commitment to participate in alumni continuing education programs when compared with the occupation of alumni.

The null hypothesis was rejected at the .05 level. There was a significant difference between the commitment to participate in alumni continuing education programs when compared with the occupation of alumni. The F value was 4.5534 where significance at the .05 level (13,920) is 1.7000.

The mean scores are reported in Table 27.

SUBHYPOTHESIS 6: There is no relationship between the commitment to participate in alumni continuing education programs and salary level.

The null hypothesis was rejected at the .05 level. There was a significant positive relationship between the commitment to participate in alumni continuing education programs and salary level. The coefficient of correlation was  $+.1096$  with significance at the .05 level at  $.0650$ .

Although the coefficient of correlation is low the relationship indicates that as the salary level goes up participation increases. The mean scores are reported in Table 28a.

SUBHYPOTHESIS 7: There is no significant difference between the commitment to participate in alumni continuing education programs when compared with the highest degree earned.

The null hypothesis was rejected at the .05 level. There was significant difference between the commitment to participate in alumni continuing education programs when compared with the highest degree earned. The F value was  $7.4159$  where significance at the .05 level ( $7,926$ ) is  $2.0200$ .

The mean level of expected participation based on the highest degree earned is reported in Table 28b.

Alumni awarded MA and DVM degrees had the highest mean level of expected participation. Recipients of advanced degrees had higher mean level of expected participation scores than those receiving their BS degrees. Alumni who did not complete their degrees and those who were awarded MD and JD degrees had the lowest mean.

Table 27. Mean level of expected participation by occupational groups

Occupational groups	Level of expected participation
Professions	1.778
Science	2.000
Sales	2.048
Not presently employed	2.094
Engineering	2.123
Business	2.169
Farming	2.189
Military	2.250
Agricultural Sciences	2.273
Education	2.417
Home Economics	2.424
Journalism	2.429
Veterinary Medicine	2.546
Not known	2.181
All alumni	2.262

SUBHYPOTHESIS 8: There is no significant difference between the commitment to participate in alumni continuing education programs when compared with the college in which highest degree was earned.

The null hypothesis was rejected at the .05 level. There

Table 28a. Mean expected level of participation by salary level

Salary level	Mean expected level of participation
Below \$5,000	1.846
\$5,000 - \$7,499	2.103
\$7,500 - \$9,999	2.391
\$10,000 - \$12,499	2.264
\$12,500 - \$14,499	2.256
\$15,000 - \$24,999	2.419
\$25,000 - \$49,999	2.286
Above \$50,000	2.600
Not known	2.205
All alumni	2.262

was a significant difference between the commitment to participate in alumni continuing education programs when compared with the college in which highest degree was earned. The F value is 8.1761 where significance at the .05 level (6,927) is 2.2200.

Alumni earning their highest degrees in the Colleges of Veterinary Medicine, Education and Home Economics had the highest mean level of expected participation. Engineering and Sciences and Humanities alumni had the lowest means.

The mean level of participation scores are reported in Table 29.

Table 28b. Mean level of expected participation by highest degree earned

Degrees	Level of expected participation
BS	2.214
MS	2.237
PhD, EdD	2.421
DVM	2.542
MA	2.750
MD, JD	1.600
Certificates	2.300
No degree	1.918
Total	2.262

SUBHYPOTHESIS 9: There is no significant difference between the commitment to participate in alumni continuing education programs when compared with whether the alumni attended an institution of higher education in addition to Iowa State University.

The null hypothesis was not rejected at the .05 level. There was not a significant difference between the commitment to participate in alumni continuing education programs when compared with whether the alumni attended an institution of higher education in addition to Iowa State University. The F value was 133.0344 where significance at the .05 level (1,932) is 3.8500.

Alumni known to have attended only Iowa State University had a lower mean level of expected participation (2.241)

Table 29. Mean level of expected participation by college in which highest degree was earned

College	Mean level of expected participation
Agriculture	2.236
Engineering	2.111
Home Economics	2.321
Sciences and Humanities	2.119
Veterinary Medicine	2.554
Education	2.500
Not known	2.250
All alumni	2.262

compared with those known to have attended an institution of higher education in addition to Iowa State University (2.264). This difference was not statistically significant, however.

SUBHYPOTHESIS 10: There is no significant difference between the commitment to participate in alumni continuing education programs when compared with participation in student organizations and activities.

The null hypothesis was rejected at the .05 level. There was a significant difference between the commitment to participate in alumni continuing education programs when compared with participation in student organizations and activities. The F value was 6.2500 where significance at the .05 level

(1,932) is 3.8500.

The mean level of expected participation of those known to have participated in student organizations and activities was 2.332 compared with 2.217 for those who had not participated. Only 39.7% of the alumni reported participating in student organizations and activities.

SUBHYPOTHESIS 11: There is no significant difference between the commitment to participate in alumni continuing education programs when compared with membership in honor societies.

The null hypothesis was not rejected at the .05 level. There was not a significant difference between the commitment to participate in alumni continuing education programs when compared with membership in honor societies. The F value was 0.4427 where significance at the .05 level (1,932) is 3.8500.

The mean level of expected participation of the 18.2% of the alumni reporting membership in honor societies was 2.294 as compared with 2.255 for those who were not members of honor societies.

SUBHYPOTHESIS 12: There is no significant difference between the commitment to participate in alumni continuing education programs when compared with participation in community activities.

The null hypothesis was rejected at the .05 level for the following categories of community activities: service clubs, professional societies or associations, church groups, youth

groups, Iowa State University alumni groups, school groups, political groups, special interest groups, (study groups, federated clubs, garden clubs, hobby and recreation groups).

There was a significant difference between the commitment to participate in alumni continuing education programs when compared with participation in the above community activities. The F values are reported in Table 30.

Alumni who were officers or held major committee chairmanships tended to have a higher mean level of expected participation. Nonmembers had lower means. The notable exceptions were the fraternal organizations and the special interest groups where the members had a higher mean level of expected participation than those in leadership capacities. The mean level of participation scores for each community activity is reported in Table 30.

SUBHYPOTHESIS 13: There is no relationship between the commitment to participate in alumni continuing education and the number of different community activities in which alumni participated.

The null hypothesis was rejected at the .05 level. There is a significant positive relationship between the commitment to participate in alumni continuing education programs and the number of different activities in which alumni participated. The coefficient of correlation was  $+ .2121$  where significance at the .05 level is .0650.



Table 30. Mean level of expected participation of alumni by categories of community activities

Community activities	Mean level of expected participation			F value
	Mbrs. with leadership positions	Mbrs.	Non-mbrs.	
Service clubs	2.443	2.320	2.225	5.1547*
Chamber of Commerce, Jaycees	2.431	2.328	2.237	2.8604
Professional society or association	2.488	2.349	2.208	23.6168*
Church groups	2.333	2.258	2.293	3.1956*
Youth groups	2.433	2.383	2.228	5.2266*
ISU alumni groups	2.556	2.461	2.197	13.2117*
School groups	2.467	2.377	2.221	6.1326*
Fraternal organizations	2.286	2.332	2.237	1.5481
Policial groups	2.500	2.328	2.232	3.7990*
Special interest groups**	2.333	2.336	2.218	3.1749*

\*Significant at .05 level,  $F(2,931) = 3.0000$

\*\*This category includes study groups, federated clubs, garden clubs, hobby and recreation groups

The coefficient of correlation was low but the mean expected level of participation goes up as the participation in the number of different activities increases. The means are reported in Table 31.

Table 31. Mean level of expected participation by number of different community activities

Number of different community activities	Mean level of expected participation
None	3.780
1	2.181
2	2.223
3	2.249
4	2.427
5	2.223
6	2.625
7	2.435
8	2.474
9 or more	2.462
All alumni	2.262

SUBHYPOTHESIS 14: There is no relationship between the commitment to participate in alumni continuing education programs and the number of different leadership positions assumed.

The null hypothesis was rejected at the .05 level. There was a significant positive relationship between the commitment to participate in alumni continuing education programs and the number of different leadership positions assumed. The coefficient of correlation was  $+.1674$  where significance at the .05 level is  $.0650$ .

As the number of leadership positions assumed increases the expected level of participation in alumni continuing education programs increases. The coefficient of correlation is low but a positive relationship exists. The means are reported in Table 32.

SUBHYPOTHESIS 15: There is no significant difference between the commitment to participate in alumni continuing education programs when compared with participation in adult or continuing education programs in 1969.

The null hypothesis was rejected at the .05 level. There was a significant difference between the commitment to participate in alumni continuing education programs when compared with participation in adult or continuing education programs in 1969. The F value was 133.0344 where significance at the .05 level (1,932) is 3.8500.

A total of 545 (58.4%) alumni reported participation in one or more continuing education programs in 1969. The mean level of expected participation of the alumni who participated in continuing education programs was 2.468 compared with 1.974 for nonparticipants.

SUBHYPOTHESIS 16: There is no significant difference between the commitment to participate in alumni continuing education programs when compared with the topics of continuing education programs in which alumni participated.

The null hypothesis was rejected at the .05 level for the following topics: new or refresher occupation information,

Table 32. Mean level of expected participation by number of leadership responsibilities assumed

Number of leadership responsibilities	Mean level of expected participation
None	2.154
1	2.266
2	2.350
3	2.452
4	2.344
5	2.800
6	2.778
7	2.000
8	3.000
All alumni	2.262

homemaking information, world or international affairs, community problems and/or action, preparing for retirement, investments and insurance and estate planning, arts and crafts and hobbies, leadership, and religious training.

There was a significant difference between the commitment to participate in alumni continuing education programs when compared with the topics of adult and continuing education programs in which alumni participated.

The null hypothesis was not rejected at the .05 level for the following topics: child or human development, recreation

and physical fitness, and foreign language. There was no significant difference between the commitment to participate in alumni continuing education programs when compared with the above topics.

The F value and means are reported in Table 33.

SUBHYPOTHESIS 17: There is no significant difference between the commitment to participate in alumni continuing education programs when compared with the topics for alumni continuing education programs in which alumni indicated they would like to participate.

The procedure for obtaining information on topics that the alumni would like to be included in alumni continuing education programs is described on page 74.

The null hypothesis was rejected at the .05 level for all topics listed. There was a significant difference between the commitment to participate in alumni continuing education programs when compared with the topics for alumni continuing education programs in which alumni indicated they would like to participate.

Alumni who indicated an interest in a topic had a higher mean level of expected participation than those who were not interested in a topic. The means and F values are reported in Table 34.

Table 33. Mean level of expected participation by topic of continuing education program in which alumni participated in 1969

Topic	Mean level of expected participation		F values
	Interested	Not interested	
New or refresher occupational information	2.514	2.078	101.1168*
Homemaking information	2.481	2.249	5.8320*
Child or human development	2.375	2.258	0.8869
World or international affairs	2.633	2.250	9.0701*
Community problems and/or action	2.541	2.225	20.9907*
Preparing for retirement	2.519	2.255	3.8581*
Recreation and physical fitness	2.418	2.253	2.9992
Investments, insurance, estate planning	2.412	2.244	5.4153*
Arts, crafts, hobbies	2.514	2.241	10.5117*
Leadership	2.506	2.240	10.9445*
Foreign language	2.364	2.261	0.2411
Religious Training	2.489	2.238	11.1855*

\*Significance at the .05 level,  $F(1,932) = 3.8500$

Table 34. Mean level of expected participation by topic preferred for alumni continuing education programs

Topic	Mean level of expected participation		F values
	Interested	Not interested	
New or refresher occupational information	2.5200	1.871	126.5927*
Homemaking information	2.437	2.237	8.8412*
Child or human development	2.483	2.230	14.0628*
World or international affairs	2.497	2.207	26.0676*
Community problems and/or action	2.508	2.136	65.1799*
Preparing for retirement	2.481	2.219	18.8574*
Recreation and physical fitness	2.508	2.223	19.2073*
Investments, insurance, estate planning	2.486	2.168	43.4850*
Arts, crafts, hobbies	2.503	2.204	28.5413*
Leadership	2.578	2.221	26.6252*
Foreign language	2.435	2.250	4.2117*

\*Significant at .05 level,  $F_{(1,932)} = 3.8500$

Present Level of Participation in  
Continuing Education Programs

Two factors were used to ascertain the present level of participation in continuing education programs by Iowa State University alumni. The factors are:

1. number of different programs in which alumni participated in 1969.
2. number of hours of instruction received during 1969.

The respondents were given a list of agencies and organizations that offer adult or continuing education programs and were asked to list the number of different programs attended and the number of hours of instruction from each agency. A series of meetings were considered as one program even though the series may have dealt with different topics. Travel time and meal breaks were not to be included in the number of hours of training.

The following agencies or organizations were listed:

1. Extension meetings, workshops and other programs sponsored by Iowa State University
2. Education programs specifically planned for alumni on the Iowa State University campus
3. Noncredit programs sponsored by other colleges and universities
4. Area-community college adult education programs
5. High school adult education programs
6. YMCA and YWCA programs
7. Church sponsored programs
8. Programs sponsored by your employer



9. Programs sponsored by a professional association or society
10. Programs sponsored by industry (other than your own employer)
11. Other

The data from the area-community college and high school categories were added together since the majority of the high school adult education programs in Iowa now come under the sponsorship of the area-community colleges. The category entitled "Programs sponsored by industry (other than your own employer)" was combined with the "other" category. The percent of alumni who participated in continued education programs in 1969 is reported in Table 35.

The null hypothesis was: There is no significant difference between the present level of participation in continuing education programs when compared with categories of selected characteristics of alumni.

#### Number of different programs

Fifteen subhypotheses were tested. The results of each analysis is reported after the subhypothesis.

SUBHYPOTHESIS 1: There is no significant difference between the number of different continuing education programs in which alumni participated in 1969 when compared with the college in which alumni earned their first degree at Iowa State University.

The null hypothesis was rejected at the .05 level. There was a significant difference between the number of different

Table 35. Percent of alumni who participated in continuing education programs in 1969 by college and era

ERA	AGR.	ENG.	H. Ec.	S&H	V.M.	TOTAL
1926-32	39.5	30.8	52.2	46.6	33.3	42.3
1933-40	57.1	42.2	71.4	40.4	65.7	57.2
1941-52	71.1	38.6	77.8	52.2	83.6	66.0
1953-65	62.2	57.1	67.6	55.2	78.4	64.2
Total	60.9	42.9	67.6	48.8	73.1	58.4

continuing education programs in which alumni participated in 1969 when compared with the college in which alumni earned their first degree at Iowa State University. The value of  $F$  was 9.3438 and significance at the .05 level (4,927) is 2.380.

The mean number of programs for alumni from each college was:

Agriculture	3.285
Engineering	1.746
Home Economics	2.723
Sciences and Humanities	1.689
Veterinary Medicine	4.917

The mean number of programs of all alumni was 2.781.

**SUBHYPOTHESIS 2:** There is no relationship between the number of different continuing education programs in which alumni participated in 1969 and the era in which the alumni received

their first degree at Iowa State University.

The null hypothesis was not rejected at the .05 level. There was no significant relationship between the number of different continuing education programs in which alumni participated in 1969. The coefficient of correlation was  $+.0599$  where significance at the .05 level was  $.0650$ .

Although the relationship was not significant a review of the means listed in Table 36 indicates that the number of programs tend to increase in the more recent eras.

**SUBHYPOTHESIS 3:** There is no significant difference between the number of different continuing education programs in which alumni participated in 1969 when compared with sex.

The null hypothesis was not rejected at the .05 level. There was no significant difference between the number of different continuing education programs in which alumni participated in 1969 when compared with sex. The F value was  $2.4045$  and significance at the .05 level (1,932) is  $3.8500$ . The mean number of programs attended by the 658 men in this study was  $2.970$ . The 276 women in the study had a mean number of  $2.330$  programs.

**SUBHYPOTHESIS 4:** There is no significant difference between the number of different continuing education programs in which alumni participated in 1969 when compared with the marital status of alumni.

The null hypothesis was not rejected at the .05 level.

Table 36. Mean number of programs by era in which alumni received their first degree

Era	Mean number of programs
1926-32	2.433
1933-40	2.214
1941-52	3.164
1953-65	3.139
All alumni	2.781

There was no significant difference between the number of different continuing education programs in which alumni participated in 1969 when compared with the marital status of alumni. The F value was 0.2677 and significance at the .05 level (4,929) is 2.610.

The mean scores were:

single	2.000
married	2.878
divorced	2.667
widowed	2.524
not known	2.616
all alumni	2.781

SUBHYPOTHESIS 5: There is no significant difference between the number of different continuing education programs in which alumni participated in 1969 when compared with the occupation of alumni.

The null hypothesis was rejected at the .05 level. There was a significant difference between the number of different continuing education programs in which alumni participated in 1969 when compared with the occupation of alumni. The F value was 2.0236 and significance at the .05 level (13,920) is 1.700. The mean number of programs for each occupational group is reported in Table 37.

SUBHYPOTHESIS 6: There is no relationship between the number of different continuing education programs in which alumni participated in 1969 and salary level.

The null hypothesis was not rejected at the .05 level. There was no significant relationship between the number of different continuing education programs in which alumni participated in 1969 and salary level. The coefficient of correlation was +.0606 where significance at the .05 level is .0650. The means are reported in Table 38.

SUBHYPOTHESIS 7: There is no significant difference between the number of different continuing education programs in which alumni participated in 1969 when compared with the highest degree earned.

The null hypothesis was rejected at the .05 level. There

Table 37. Mean number of programs by occupational groups

Occupational groups	Number of programs
Veterinary Medicine	4.142
Education	3.952
Home Economics	3.333
Professions	3.333
Business	2.708
Farming	2.324
Engineering	1.912
Agricultural Sciences	1.909
Not presently employed	1.813
Journalism	1.571
Science	1.250
Sales	1.000
Military	0.500
Not known	2.155
All alumni	2.781

was a significant difference between the number of different continuing education programs in which alumni participated in 1969 when compared with the highest degree earned. The F value was 2.5389 and significance at the .05 level (7,926) is 2.0200. Alumni holding DVM degrees had the highest mean followed by alumni with MS, PhD and BS degrees. Alumni who earned

Table 38. Mean number of programs by salary

Salary	Mean number of programs
Below \$5,000	0.846
\$5,000 - \$7,499	1.000
\$7,500 - \$9,999	2.453
\$10,000 - \$12,499	2.514
\$12,500 - \$14,999	2.603
\$15,000 - \$24,999	3.729
\$25,000 - \$49,999	3.796
Above \$50,000	2.600
Not known	2.642
All alumni	2.781

certificates or did not complete their degree program had the lowest means. Specific means are in Table 39.

SUBHYPOTHESIS 8: There is no significant difference between the number of different continuing education programs in which alumni participated in 1969 when compared with the college in which their highest degree was earned.

The null hypothesis was rejected at the .05 level. There was a significant difference between the number of different continuing education programs in which alumni participated in 1969 when compared with the college in which their highest

Table 39. Mean number of programs by highest degree earned

Degree	Number of programs
BS	2.401
MS	3.794
PhD, EdD	2.579
DVM	4.236
MA	2.250
JD, MD	2.000
Certificates	1.200
No degree	1.653
All alumni	2.781

degree was earned. The F value was 5.8902 and significance at the .05 level (6,927) is 2.2200.

The mean number of programs by college was:

Agriculture	3.154
Engineering	1.789
Home Economics	2.604
Sciences and Humanities	1.732
Veterinary Medicine	4.885
Education	0.500
Not known	3.813



SUBHYPOTHESIS 9: There is no significant difference between the number of different continuing education programs in which alumni participated in 1969 when compared with whether alumni attended an institution of higher learning in addition to Iowa State University.

The null hypothesis was not rejected at the .05 level. There was no significant difference between the number of different continuing education programs in which alumni participated in 1969 when compared with whether alumni attended an institution of higher learning in addition to Iowa State University. The F value was 0.0575 and significance at the .05 level (1,932) is 3.8500.

Although alumni known to have attended an institution of higher education other than Iowa State University had a higher mean (2.963) than those who did not (2.769), the difference was not significant.

SUBHYPOTHESIS 10: There is no significant difference between the number of different continuing education programs in which alumni participated in 1969 when compared with whether alumni participated in student organizations or activities.

The null hypothesis was rejected at the .05 level. There was a significant difference between the number of different continuing education programs in which alumni participated in 1969 when compared with whether alumni participated in student organizations or activities. The F value was 4.2119

and significance at the .05 level (1,932) is 3.8500. Students known to have participated in student organizations or activities had a mean of 3.256 while those who did not had a mean of 2.467.

SUBHYPOTHESIS 11: There is no significant difference between the number of different continuing education programs in which alumni participated in 1969 when compared with membership in honor societies.

The null hypothesis was not rejected at the .05 level. There was no significant difference between the number of different continuing education programs in which alumni participated in 1969 when compared with membership in honor societies. The F value was 2.4068 when significance at the .05 level (1,932) is 3.8500.

Members of honor societies participated in more continuing education programs (3.518) than nonmembers (2.616).

SUBHYPOTHESIS 12: There is no significant difference between the number of different continuing education programs in which alumni participated in 1969 when compared with their participation in community activities.

The null hypothesis was rejected at the .05 level for all categories of community activities except school groups. There was a significant difference between the number of different continuing education programs in which alumni participated in

1969 when compared with their participation in community activities (except school groups).

The mean number of programs for members with leadership responsibility, members only and nonmembers F values are reported in Table 40. The mean number of programs was higher for those in leadership position (except for service clubs, Chamber of Commerce and fraternal organizations).

**SUBHYPOTHESIS 13:** There is no relationship between the number of different continuing education programs in which alumni participated in 1969 and the number of different community activities in which alumni participated.

The null hypothesis was rejected at the .05 level. There is a significant positive relationship between the number of different continuing education programs in which alumni participated in 1969 and the number of different community activities in which alumni participated. The coefficient of correlation was  $+.2173$  where significance at the .05 level is  $.0650$ .

The means are reported in Table 41.

**SUBHYPOTHESIS 14:** There is no relationship between the number of different continuing education programs in which alumni participated in 1969 and the number of different leadership positions assumed. The null hypothesis was rejected at the .05 level. There was a significant positive relationship between the number of different continuing education programs in which

Table 40. Mean number of programs by categories of community activities

Community activities	Mean number of programs			F value
	Mbrs. with leadership positions	Mbrs.	Non-mbrs.	
Service clubs	3.349	4.057	2.475	4.5468*
Chamber of Commerce	3.797	4.022	2.484	4.8917*
Professional society	5.137	2.988	1.710	22.8020*
Church groups	3.184	3.070	2.053	3.5743*
Youth groups	4.567	3.407	2.484	6.2178*
ISU alumni groups	4.500	4.126	2.324	9.0243*
School groups	3.667	3.578	2.536	2.8466
Fraternal organizations	2.810	3.798	2.447	4.3560*
Political groups	3.658	3.618	2.514	3.1842*
Special interest groups**	3.564	3.311	2.409	3.3070*

\*Significant at the .05 level,  $F(2,931) = 3.000$

\*\*Includes study groups, garden clubs, federated clubs hobby and recreation groups

alumni participated in 1969 and the number of different leadership positions assumed. The coefficient of correlation was +.1491 where significance at the .05 level is .0650.

The means in Table 42 show that as the number of activities in which alumni assumed leadership responsibilities increases the number of programs of continuing education increases.

Table 41. Mean number of programs by number of different community activities

Number of different community activities	Mean number of programs
None	0.890
1	1.457
2	2.359
3	2.265
4	3.359
5	2.883
6	4.734
7	6.783
8	5.526
9 or more	4.385
All alumni	2.781

SUBHYPOTHESIS 15: There is no relationship between the number of different continuing education programs in which alumni participated in 1969 and the expected participation in alumni continuing education programs planned for Iowa State University alumni.

The null hypothesis was rejected at the .05 level. There was a significant positive relationship between the number of different continuing education programs in which alumni participated in 1969 and the expected participation in alumni

Table 42. Mean number of programs by number of leadership responsibilities assumed

Number of leadership responsibilities	Mean number of programs
None	1.665
1	3.429
2	3.625
3	3.524
4	4.844
5	3.800
6	5.000
7	6.500
8	0.000
All alumni	2.781

continuing education programs planned for Iowa State University alumni. The coefficient of correlation was  $+0.2218$  where significance at the .05 level was .0650.

The alumni who indicated they would participate in alumni continuing education programs had a mean of 2.409 programs. Those who indicated that they may attend had a mean of 3.311 programs and those who said they definitely would not participate in alumni continuing education programs had a mean of 3.564 programs.

Number of hours of instruction

A coefficient of correlation was calculated to determine the relationship between number of hours of instruction and number of different programs. The coefficient of correlation was  $+.4238$  where significance at the  $.05$  level is  $.0650$ .

Since the relationship was established null subhypotheses were not tested for the factors related to level of participation. There would be some deviation due to number of programs in a series and the length of individual training sessions. For the purposes of this study these deviations were deemed to be relatively unimportant.

Needs and Interests of Alumni Related to  
Alumni Continuing Education Programs

Three of the factors identified as being relevant to needs and interests of alumni related to alumni continuing education programs were included in this study. The factors were:

1. specific subject matter of adult or continuing education programs in which alumni participated during 1969
2. specific subject matter of interest to alumni for future alumni continuing education programs, and
3. interest of alumni in alumni continuing education programs in place of alumni class reunions and alumni club social functions.

Content of continuing education programs

The alumni were given a list of topics and asked to check each of the topics of the adult or continuing education programs in which they had participated in during 1969. The

topics were:

1. New or refresher information for your occupation
2. Homemaking information
3. Child or human development
4. World or international affairs
5. Community problems and/or action
6. Preparing for retirement
7. Recreation and physical fitness
8. Investments, insurance, estate planning
9. Arts, crafts, hobbies
10. Leadership
11. Foreign language
12. Religious training

The number and percent of alumni participating in each of the topics is reported in Table 21.

Alumni, who indicated they would be interested in alumni continuing education programs planned for Iowa State University alumni, were asked to check the topics in which they would be interested. The list was the same as the above list with the exception of religious training. This topic was omitted as it was deemed inappropriate as a topic for a public institution to offer.

The number and percent of alumni expressing an interest in the topics are summarized in Table 25.



Traditional alumni functions and alumni continuing education

Four agree-disagree statements were used to obtain information about alumni reactions to traditional alumni functions (class reunions, alumni club social functions) and alumni continuing education programs. The statements were:

1. I would prefer to attend an educational program on campus rather than a typical class reunion.
2. I would prefer to attend an educational program rather than participate in an alumni club social function.
3. Alumni class reunions satisfy a need for me as a college alumnus.
4. Alumni clubs satisfy a need for me as a college alumnus.

The method of determining mean reaction scores is described on page 39. Coefficients of correlation were calculated to determine if a relationship existed between these four statements. The coefficients of correlation are:

statements 1 and 2 +	.641
3 and 4 +	.721
1 and 3 +	.265
2 and 4 +	.293

Significance at the .05 level is .0650.

The percent of alumni preferring educational programs to traditional alumni functions and indicating traditional alumni functions satisfy a need is reported in Tables 43a, 43b, 44a and 44b.

The null hypothesis was: There is no significant difference between the alumni's perception of who should assume responsibility for alumni continuing education programs when compared with the categories of selected characteristics of alumni.

Table 43a. Percent of alumni indicating that reunions satisfy a need by college and era

ERA	AGR.	ENG.	H. Ec.	S&H	V.M.	TOTAL
1926-32	16.3	23.1	21.8	17.3	33.4	20.4
1933-40	28.2	28.8	16.7	19.2	14.3	21.9
1941-52	13.3	11.4	13.0	13.0	23.7	15.2
1953-65	13.3	8.2	21.1	10.3	25.5	16.1
Total	17.9	17.5	18.3	14.8	23.1	18.1

Table 43b. Percent of alumni indicating that alumni club social function satisfy a need by college and era

ERA	AGR.	ENG.	H. Ec.	S&H	V.M.	TOTAL
1926-32	32.6	20.5	17.3	12.1	46.7	21.9
1933-40	10.9	13.3	7.2	17.1	8.6	11.6
1941-52	26.6	11.4	9.3	10.9	14.5	14.3
1953-65	13.3	8.2	15.5	10.3	15.7	12.8
Total	20.7	13.0	12.7	12.4	16.7	14.9

Fifteen subhypotheses in the null form were tested. The results are presented after each subhypothesis.

Table 44a. Percent of alumni that prefer educational programs rather than reunions by college and era

ERA	AGR.	ENG.	H. Ec.	S&H	V.M.	TOTAL
1926-32	53.5	33.4	67.4	41.3	66.6	50.3
1933-40	50.0	51.1	71.4	55.3	80.0	60.4
1941-52	66.7	84.1	77.7	69.6	74.5	74.6
1953-65	73.3	65.3	71.8	67.3	72.5	70.1
Total	60.9	59.3	72.3	57.9	74.4	64.7

Table 44b. Percent of alumni that prefer educational programs rather than alumni club social functions by college and era

ERA	AGR.	ENG.	H. Ec.	S&H	V.M.	TOTAL
1926-32	58.2	46.1	71.7	56.9	66.6	59.2
1933-40	56.5	55.5	76.2	65.9	85.8	67.0
1941-52	68.9	75.0	81.4	63.0	80.0	74.2
1953-65	75.6	73.5	71.9	75.9	74.5	74.1
Total	64.8	63.3	75.1	65.6	78.2	69.3

SUBHYPOTHESIS 1: There is no significant difference between the interest in alumni continuing education programs rather than class reunions and alumni club social functions when compared with the college in which alumni earned their first degree at Iowa State University.

The null hypothesis was rejected at the .05 level for statements 1 and 2. There was a significant difference between the interest in alumni continuing education programs rather than class reunions and alumni club social functions when compared with the college in which alumni earned their first degree at Iowa State University.

The null hypothesis was not rejected at the .05 level for statement 3. There was no significant difference between the degree to which alumni class reunions satisfy a need when compared with the college in which alumni earned their first degree at Iowa State University.

The null hypothesis was rejected at the .05 level for statement 4. There was a significant difference between the degree to which alumni club social functions satisfy a need when compared with the college in which alumni earned their first degree at Iowa State University.

The mean reaction scores are reported in Table 45.

SUBHYPOTHESIS 2: There is no relationship between the interest in alumni continuing education programs rather than class reunions and alumni club social functions and the era in which

Table 45. Mean reaction scores related to alumni reunions and alumni club social functions by college in which first degree was earned

College	Mean reaction scores			
	1	2	3	4
Agriculture	3.721	3.771	2.648	2.754
Engineering	3.723	3.836	2.475	2.508
Home Economics	3.000	4.095	2.484	2.479
Sciences and Humanities	3.746	3.852	2.421	2.359
Veterinary Medicine	4.090	4.224	2.686	2.571
All alumni	3.852	3.949	2.533	2.526
F values	4.6553*	6.5320*	2.1387	4.0811*

\*Significant at .05 level,  $F_{(4,929)} = 2.3800$

alumni earned their first degree at Iowa State University.

The null hypothesis was rejected at the .05 level for all four statements. There was a significant negative relationship between the interest in alumni continuing education programs rather than class reunions and alumni club social functions and the era in which the alumni earned their first degree at Iowa State University.

The coefficient of correlation for statement 1 was  $-.1671$ ; statement 2 was  $-.1294$ ; statement 3 was  $-.0967$  and statement 4 was  $-.0713$ . Significance at the .05 level is .0650.

The means are reported in Table 46. The more recent

Table 46. Mean reaction scores related to alumni reunions and alumni club social functions by era in which alumni earned their first degree

Era	Mean reaction scores			
	Statements			
	1	2	3	4
1926-32	3.527	3.662	2.657	2.682
1933-40	3.772	3.888	2.665	2.507
1941-52	4.016	4.033	2.439	2.520
1953-65	4.007	4.080	2.423	2.449
All alumni	3.852	3.949	2.533	2.526

alumni place higher value on educational programs than traditional alumni functions.

SUBHYPOTHESIS 3: There is no significant difference between the interest in alumni continuing education programs rather than class reunions and alumni club social functions when compared with sex.

The null hypothesis was not rejected at the .05 level for all four statements. There was no significant difference between the interest in alumni continuing education programs rather than class reunions and alumni club social functions when compared with sex.

Alumnae had a greater interest in alumni continuing education programs rather than the typical alumni activities but this difference was not significant. The mean reaction scores

are reported in Table 47.

**SUBHYPOTHESIS 4:** There is no significant difference between the interest in alumni continuing education programs rather than class reunions and alumni club social functions when compared with marital status.

The null hypothesis was not rejected at the .05 level for statements 1 and 2. There was no significant difference between the interest in alumni continuing education programs rather than class reunions and alumni club social functions when compared with marital status.

The null hypothesis was not rejected at the .05 level for statement 3. There was no significant difference between the degree to which alumni class reunions satisfy a need when compared with marital status.

The null hypothesis was rejected at the .05 level for statement 4. There was a significant difference between the degree to which alumni club social functions satisfy a need when compared with marital status.

The mean reaction scores are in Table 48.

**SUBHYPOTHESIS 5:** There is no significant difference between the interest in alumni continuing education programs rather than class reunions and alumni club social functions when compared with occupation.

The null hypothesis was rejected at the .05 level for all four statements. There was a significant difference between

Table 47. Mean reaction scores related to alumni reunions and alumni club social functions by sex

Sex	Mean reaction scores			
	Statements			
	1	2	3	4
Male	3.830	3.912	2.574	2.565
Female	3.906	4.036	2.435	2.431
All alumni	3.852	3.949	2.533	2.526
F values*	0.9452	2.9997	3.3158	3.5359

\*Significance at .05 level,  $F(1,932) = 3.8500$

Table 48. Mean reaction scores related to alumni reunions and alumni club social functions by marital status

Marital status	Mean reaction scores			
	Statements			
	1	2	3	4
Single	3.973	4.162	2.135	2.162
Married	3.954	3.921	2.584	2.588
Divorced	3.667	3.000	2.500	2.333
Widowed	3.286	3.857	2.429	2.190
Not known	3.889	3.016	2.442	2.416
All alumni	3.852	3.949	2.533	2.526
F values	1.6318	0.8130	2.0617	3.1565*

\*Significant at .05 level,  $F(4,929) = 2.6100$



the interest in alumni continuing education programs rather than class reunions and alumni club social functions when compared with occupation.

Alumni in Home Economics, Education, Veterinary Medicine and Engineering occupations consistently had higher mean reaction scores indicating they preferred educational programs to alumni class reunions and alumni club social functions. Alumni in the professions, education and science occupations generally had low mean reaction scores indicating that alumni reunions and alumni club social functions did not satisfy a need for them. Alumni in the occupation of farming placed a high value on reunions and alumni club social functions. The mean reaction scores are reported in Table 49.

SUBHYPOTHESIS 6: There is no relationship between the interest in alumni continuing education programs rather than class reunions and alumni club social functions and salary level.

The null hypothesis was not rejected at the .05 level for all four statements. There was no significant relationship between the interest in alumni continuing education programs rather than class reunions and alumni club social functions and salary level.

The coefficient of correlation for statement 1 was  $-.0116$ ; statement 2 was  $+.0056$ ; statement 3 was  $-.0326$  and statement 4 was  $-.0578$ . Significance at the .05 level is  $.0650$ .

The means are reported in Table 50.

Table 49. Mean reaction scores related to alumni reunions and alumni club social functions by occupation

Occupation	Mean reaction scores			
	1	2	3	4
Home Economics	4.167	4.250	2.750	2.333
Education	4.091	4.091	2.297	2.315
Veterinary Medicine	4.068	4.213	2.709	2.602
Engineering	4.018	3.982	2.316	2.421
Professions	3.889	3.556	1.778	1.000
Journalism	3.857	3.857	2.714	2.573
Not known	3.806	3.862	2.513	2.457
Business	3.685	3.777	2.515	2.585
Not presently employed	3.583	3.865	2.656	2.760
Sales	3.571	3.810	2.571	2.760
Farming	3.324	3.595	3.108	2.973
Military	3.250	3.000	2.250	2.250
Agricultural Sciences	3.000	4.091	3.091	2.000
Science	3.000	4.167	2.333	2.250
F values	2.8810*	2.1689*	2.7669*	2.4355*

\*Significant at .05 level,  $F_{(13,920)} = 1.7000$

**SUBHYPOTHESIS 7:** There is no significant difference between the interest in alumni continuing education programs rather than class reunions and alumni club social functions when compared with the highest degree earned.

Table 50. Mean reaction scores related to alumni reunions and alumni club social functions by salary level

Salary level	Mean reaction scores			
	Statements			
	1	2	3	4
Below \$5,000	2.923	3.538	2.923	3.077
\$5,000 - \$7,499	3.517	4.034	2.621	2.448
\$7,500 - \$9,999	3.797	4.047	2.578	2.516
\$10,000 - \$12,499	3.667	3.792	2.625	2.667
\$12,500 - \$14,999	3.731	3.821	2.782	2.705
\$15,000 - \$24,999	4.045	4.090	2.419	2.516
\$25,000 - \$49,999	3.735	3.735	2.714	2.633
Above \$50,000	4.300	3.000	2.400	2.600
Not known	3.894	3.961	2.476	2.455
All alumni	3.852	3.949	2.533	2.526

The null hypothesis was rejected at the .05 level for statements 1 and 2. There was a significant difference between the interest in alumni continuing education programs rather than class reunions and alumni club social functions when compared with the highest degree earned.

The null hypothesis was not rejected at the .05 level for statements 3 and 4. There was no significant difference between the degree to which class reunions and alumni club social functions satisfy a need when compared with the highest degree earned.

The mean reaction scores are reported in Table 51.

SUBHYPOTHESIS 8: There is no significant difference between the interest in alumni continuing education programs rather than class reunions and alumni club social functions when compared with the college in which the highest degree was earned.

The null hypothesis was rejected at the .05 level for statements 1 and 2. There was a significant difference between the interest in alumni continuing education programs rather than class reunions and alumni club social functions when compared with the college in which the highest degree was earned.

The null hypothesis was not rejected at the .05 level for statements 3 and 4. There was no significant difference between the degree to which class reunions and alumni club social functions satisfy a need when compared with the college in which the highest degree was earned.

The mean reaction scores are reported in Table 52.

SUBHYPOTHESIS 9: There is no significant difference between the interest in alumni continuing education programs rather than class reunions and alumni club social functions when compared with whether the alumni attended an institution of higher learning in addition to Iowa State University.

The null hypothesis was not rejected at the .05 level for all four statements. There was no significant difference between the interest in alumni continuing education programs rather than class reunions and alumni club social functions

Table 51. Mean reaction scores related to alumni reunions and alumni club social functions by highest degree earned

Degree	Mean reaction scores			
	Statements			
	1	2	3	4
BS	3.767	3.873	2.537	2.542
MS	4.072	4.010	2.216	2.361
PhD, EdD	4.237	4.368	2.553	2.263
DVM	4.076	4.201	2.694	2.597
MA	3.500	3.750	2.625	2.375
JD, MD	3.600	3.200	2.400	2.800
Certificates	3.600	3.000	2.800	2.600
No degree	3.612	3.755	2.571	2.633
All alumni	3.852	3.949	2.533	2.526
F values	3.2409*	3.5606*	1.8079	1.0534

\*Significant at .05 level,  $F(7,926) = 2.0200$

when compared with whether the alumni attended an institution of higher learning in addition to Iowa State University.

The mean reaction scores are reported in Table 53.

SUBHYPOTHESIS 10: There is no significant difference between the interest in alumni continuing education programs rather than class reunions and alumni club social functions when compared with whether the alumni participated in student organizations and activities.

Table 52. Mean reaction scores related to alumni reunions and alumni club social functions by college in which highest degree was earned

College	Mean reaction scores			
	Statements			
	1	2	3	4
Agriculture	3.698	3.791	2.621	2.692
Engineering	3.708	3.860	2.480	2.503
Home Economics	3.991	4.066	2.491	2.476
<b>Sciences and Humanities</b>	3.804	3.866	2.418	2.407
Veterinary Medicine	4.070	4.223	2.688	2.567
Education	4.500	4.500	2.000	2.000
Not known	3.687	3.375	2.500	2.500
Total alumni	3.852	3.949	2.533	2.526
F values	2.9965*	4.7207*	1.3231	1.5348

\*Significant at .05 level,  $F(6,927) = 2.6100$

The null hypothesis was not rejected at the .05 level for statements 1 and 2. There was no significant difference between the interest in alumni continuing education programs rather than class reunions and alumni club social functions when compared with whether the alumni participated in student organizations and activities.

Alumni who did not participate in student organizations and activities had higher mean reaction scores. This

Table 53: Mean reaction scores related to alumni reunions and alumni club social functions by whether alumni attending an institution of higher learning in addition to Iowa State University

	Mean reaction scores			
	1	2	3	4
ISU only	3.844	3.950	2.544	2.534
ISU and other institutions	3.981	3.926	2.352	2.389
Total alumni	3.852	3.949	2.533	2.526
F values*	0.8058	0.0294	1.6434	1.0799

\*Significance at .05 level,  $F_{(1,932)} = 3.8500$

difference was not significant, however.

The null hypothesis was rejected at the .05 level for statements 3 and 4. There was a significant difference between the degree to which alumni class reunions and alumni club social functions satisfy a need when compared with whether the alumni participated in student organizations and activities.

Alumni known to have participated in student organizations and activities had a higher mean reaction score than those who did not participate. These scores are reported in Table 54.

SUBHYPOTHESIS 11: There is no significant difference between the interest in alumni continuing education programs rather than class reunions and alumni club social functions when compared with membership in honor societies.

Table 54. Mean reaction scores related to alumni reunions and alumni club social functions by participation in college organizations and activities

	Mean reaction scores			
	1	2	3	4
Participant	3.836	3.906	2.677	2.657
Nonparticipant	3.863	3.977	2.439	2.439
All alumni	3.852	3.949	2.533	2.526
F values	0.1458	1.1297	11.1440*	10.9080*

\*Significant at .05 level,  $F_{(1,932)} = 3.8500$

The null hypothesis was not rejected at the .05 level for all four statements. There was no significant difference between the interest in alumni continuing education programs rather than class reunions and alumni club social functions when compared with membership in honor societies.

The means and F values are reported in Table 55a.

- SUBHYPOTHESIS 12: There is no significant difference between the interest in alumni continuing education programs rather than class reunions and alumni club social functions when compared with participation in community activities.
- Statement 1. The null hypothesis was not rejected at the .05 level for all categories of community activities except professional societies and Iowa State University Alumni groups.



Table 55a. Mean reaction scores related to alumni reunions and alumni club social functions by honor society

	Mean reaction scores			
	Statements			
	1	2	3	4
Members	3.982	3.000	2.665	2.606
Nonmembers	3.823	3.937	2.504	2.508
All alumni	3.852	3.949	2.533	2.526
F values*	2.9610	0.5459	3.1413	1.3487

\*Significance at .05 level,  $F(1,932) = 3.8500$

There was no significant difference between the interest in alumni continuing education programs rather than class reunions when compared with participation in community activities.

There was no consistent pattern evident when comparing mean reaction scores for the various community activities and the participation of alumni.

Statement 2. The null hypothesis was not rejected at the .05 level for all of the categories of community activities except for professional societies and associations and special interest groups. There was no significant difference between the interest in alumni continuing education programs rather than alumni club social functions when compared with participation in community activities.

There was no consistent pattern evident when comparing mean reaction scores for the various community activities and

the participation of alumni.

Statement 3. The null hypothesis was not rejected at the .05 level for all community activities except professional societies, Iowa State University alumni groups and fraternal organizations. There was no significant difference between the degree to which alumni class reunions satisfy a need when compared with participation in community activities.

Members and nonmembers of Iowa State University alumni groups and professional societies had higher mean reaction scores, reflecting they felt that reunions satisfied a need for them, than did members with leadership responsibilities. All mean reaction scores were between "strongly disagree" and the "no opinion" points on the scale.

Statement 4. The null hypothesis was not rejected at the .05 level for all community activities except Iowa State University alumni groups, fraternal organizations and political groups. There was no significant difference between the degree to which alumni club social functions satisfy a need when compared with participation in community activities.

Members and members with leadership responsibilities tended to have higher mean reaction scores reflecting they felt alumni club social functions satisfied a need for them. Only one mean reaction score was above 3.000 (no opinion). All other mean reaction scores fell into the range between strongly disagree and no opinion on the scale. The mean reaction scores are reported in Table 55b.

Table 55b. Mean reaction scores related to alumni reunions and alumni club social functions by categories of community activities.

Community activities	Statement 1				Statement 2			
	Non-mbrs.	Mbrs.	Mbrs. with leadership positions	F value	Non-mbrs.	Mbrs.	Mbrs. with leadership positions	F value
Service clubs	3.843	3.770	4.009	1.4704	3.953	3.916	3.953	0.0651
Chamber of Commerce	3.853	3.839	3.759	0.2863	3.968	3.918	3.776	1.0579
Professional societies	3.724	3.873	4.143	9.1960*	3.885	3.946	4.119	3.3255*
Church groups	3.790	3.888	3.874	0.7292	3.883	3.924	4.039	1.9886
Youth groups	3.827	4.037	3.897	1.4513	3.937	4.096	3.928	0.8410
ISU alumni groups	3.875	3.735	4.389	3.5851*	3.993	3.828	3.667	2.9662
School groups	3.817	3.903	4.150	2.7906	3.949	3.870	4.150	1.6852
Fraternal organizations	3.861	3.904	3.655	1.6329	3.970	3.928	3.833	0.7511
Political groups	3.831	3.830	4.211	2.1934	3.964	3.887	3.974	0.4385
Special interest groups**	3.838	3.826	3.974	0.8497	3.948	3.855	4.137	3.0921*

\*Significant at the .05 level,  $F(2,931) = 3.000$

\*\*Includes study groups, garden clubs, federated clubs, hobby and recreation groups

Table 55b. (Continued).

Community activities	Statement 3				Statement 4			
	Non-mbrs.	Mbrs.	Mbrs. with leadership positions	F value	Non-mbrs.	Mbrs.	Mbrs. with leadership positions	F value
Service clubs	2.518	2.533	2.632	0.5185	2.486	2.664	2.632	2.3495
Chamber of Commerce groups	2.520	2.552	2.655	0.4507	2.493	2.619	2.724	2.1402
Professional societies	2.525	2.645	2.333	4.7692*	2.528	2.584	2.405	1.8150
Church groups	2.527	2.526	2.548	0.0434	2.480	2.520	2.577	0.7283
Youth groups	2.536	2.642	2.423	0.9351	2.500	2.654	2.619	1.3493
ISU alumni groups	2.434	2.819	2.000	12.6768*	2.401	2.860	3.389	25.6652*
School groups	2.539	2.552	2.417	0.3876	2.505	2.591	2.617	0.7484
Fraternal organizations	2.461	2.606	2.905	7.0785*	2.449	2.649	2.810	7.0094*
Political groups	2.504	2.634	2.579	1.1252	2.483	2.624	2.842	3.4797*
Special interest groups**	2.543	2.502	2.547	0.1316	2.526	2.523	2.530	0.0013

SUBHYPOTHESIS 13: There is no relationship between the interest in alumni continuing education programs rather than class reunions and alumni club social functions and the number of different community activities in which alumni participated.

The null hypothesis was not rejected for statements 1 and 2. There was no significant relationship between the interest in alumni continuing education programs rather than class reunions and alumni club social functions and the number of different community activities in which alumni participated.

The null hypothesis was rejected for statements 3 and 4. There was a significant negative relationship between whether class reunions and alumni club social functions satisfy a need and the number of different community activities in which alumni participated.

The coefficient of correlation for statement 1 was  $-.0584$ ; statement 2 was  $+.0061$ ; statement 3 was  $-.0680$  and statement 4 was  $-.1299$ . Significance at the .05 level is .0650. The means are reported in Table 56.

SUBHYPOTHESIS 14: There is no relationship between the interest in alumni continuing education programs rather than class reunions and alumni club social functions and the number of leadership responsibilities assumed.

The null hypothesis was rejected at the .05 level for statements 1 and 4. There was a significant negative relationship between the interest in alumni continuing education

Table 56. Mean reaction scores related to alumni reunions and alumni club social functions by number of different community activities

Number of activities	Mean reaction scores			
	1	2	3	4
None	3.671	3.817	2.524	2.390
1	3.931	4.155	2.371	2.388
2	3.776	3.865	2.465	2.447
3	3.773	3.914	2.568	2.530
4	3.959	4.021	2.566	2.503
5	3.851	3.000	2.468	2.468
6	3.984	3.984	2.766	2.797
7	4.022	3.739	2.674	2.000
8	3.684	3.789	2.632	2.842
9 or more	4.231	4.154	2.769	2.769
All alumni	3.852	3.949	2.533	2.526

programs rather than class reunions and alumni club social functions and the number of leadership responsibilities assumed.

The null hypothesis was not rejected at the .05 level for statements 2 and 3. There was no significant relationship between the interest in alumni continuing education programs rather than class reunions and alumni club social functions and the number of leadership responsibilities assumed.

The coefficient of correlation for statement 1 was  $-.0795$ ; statement 2 was  $-.0498$ ; statement 3 was  $-.107$  and statement 4 was  $-.0668$ . Significance at the .05 level is .0650. The means are reported in Table 57a.

SUBHYPOTHESIS 15: There is no significant difference between the interest in alumni continuing education programs rather than class reunions and alumni club social functions when compared with whether they participated in adult or continuing education programs in 1969.

The null hypothesis was rejected at the .05 level for statements 1 and 2. There was a significant difference between the interest in alumni continuing education programs rather than class reunions and alumni club social functions when compared with whether they participated in adult or continuing education programs in 1969.

The null hypothesis was not rejected at the .05 level for statements 3 and 4. There was no significant difference between the interest in alumni continuing education programs and the degree to which class reunions and alumni club social functions satisfy a need when compared with whether they participated in adult or continuing education programs in 1969.

Alumni who participated in adult or continuing education programs had higher mean reaction scores indicating they more strongly agreed that they would prefer to attend educational programs rather than class reunions and alumni club social

Table 57a. Mean reaction scores related to alumni reunions and alumni club social functions by number of different leadership responsibilities assumed

Number	Mean reaction scores			
	Statements			
	1	2	3	4
None	3.752	3.873	2.556	2.511
1	3.936	3.979	2.421	2.451
2	3.844	3.994	2.612	2.525
3	4.060	4.226	2.571	2.583
4	3.687	3.750	2.574	2.906
5	4.200	3.000	2.300	2.600
6	4.444	3.667	2.778	2.600
7	3.000	3.000	3.500	3.000
8	4.000	4.000	1.000	1.000
All alumni	3.852	3.949	2.533	2.526

functions.

Alumni who participated in adult or continuing education felt more strongly that class reunions satisfied a need for them than did alumni who had not participated in continuing education. The alumni who had not participated in continuing education programs felt more strongly that alumni club social functions satisfied a need.

Mean reaction scores relating to class reunions and alumni club social functions satisfying a need are in Table 57b. All



Table 57b. Mean reaction scores related to alumni reunions and alumni club social functions by whether alumni participated in continuing education programs in 1969

	Mean reaction scores			
	Statements			
	1	2	3	4
Participated	4.026	4.097	2.567	2.514
Did not participate	3.609	3.740	2.486	2.543
All alumni	3.852	3.949	2.533	2.526
F value	34.2172*	29.6547*	1.2976	0.1886

\*Significant at .05 level,  $F(2,931) = 3.8500$

mean reaction scores are between the "no opinion" and "strongly disagree" points on the scale.

#### Responsibility for Alumni Continuing Education

Within the organizational structure of Iowa State University, University Extension, the Office of Alumni Affairs, or the individual departments could assume major responsibility for alumni continuing education. With the growing community service programs at community colleges and other colleges and universities these institutions could also contribute to the process of continuous education.

To ascertain the relevant source of continuing education programs for Iowa State University alumni, respondents were asked to react to four agree-disagree statements. The statements were:

1. Iowa State University should provide opportunities for alumni to participate in educational programs.
2. The Iowa State University Alumni Association should offer opportunities for alumni to participate in educational programs.
3. I look to the department in which I was last enrolled for continuing education programs.
4. I look to institutions, agencies or organizations other than Iowa State University for continuing education programs.

Mean reaction scores were calculated by assigning values

of 5-4-3-2-1 to the strongly agree--moderately agree--no opinion--moderately disagree--strongly disagree categories with the value of 5 assigned to the "strongly agree" category.

To determine if a relationship existed between these four statements coefficients of correlation were calculated. The coefficients of correlation are:

Statements 1 and 2	+ .4490
1 and 3	+ .3227
1 and 4	+ .2195
2 and 3	+ .2033
2 and 4	+ .0928
3 and 4	+ .1943

Significance at the .05 level was .065.

The mean reaction scores for these statements were:

Statement 1	4.307
Statement 2	3.638
Statement 3	3.575
Statement 4	4.048

In Table 58 are reported the mean reaction scores by college and era. A total of 84.9% of the alumni agreed that Iowa State University should provide opportunities for continuing education programs, while 11.9% had no opinion and 3.2% disagreed with the statement.

In responding to the statement concerning the Iowa State University Alumni Association providing continuing education programs 55.4% agreed, 34.5% had no opinion and 10.1% disagreed. Mean reaction scores are reported in Table 59.

The department in which the alumni was last enrolled was

Table 58. Mean reaction scores related to Iowa State University sponsorship of alumni continuing education by era and college

ERA	AGR.	ENG.	H. Ec.	S&H	V.M.	TOTAL
1926-32	4.093	3.897	4.304	4.086	4.400	4.124
1933-40	4.283	4.067	4.310	4.170	4.400	4.237
1941-52	4.356	4.205	4.444	4.239	4.582	4.377
1953-65	4.356	4.286	4.648	4.259	4.549	4.434
Total	4.274	4.124	4.455	4.187	4.513	4.307

Table 59. Mean reaction scores related to Iowa State University Alumni Association sponsorship of alumni continuing education by era and college

ERA	AGR.	ENG.	H. Ec.	S&H	V.M.	TOTAL
1926-32	3.442	3.462	3.804	3.466	3.667	3.552
1933-40	3.609	3.378	3.571	3.340	3.686	3.507
1941-52	3.578	3.523	3.852	3.783	3.564	3.664
1953-65	3.422	3.796	3.845	3.983	3.765	3.781
Total	3.514	3.548	3.784	3.651	3.667	3.638

agreed to be a source of continuing education by 56.4% of the alumni; while 25.7% had no opinion and 17.9% disagreed. The mean reaction scores are reported in Table 60.

A total of 81.2% of the alumni indicated that they looked to educational institutions and agencies other than Iowa State University as a source of continuing education. Only 5.1% disagreed and 13.7% had no opinion.

The null hypothesis was: There is no significant difference between alumni's perception of who should assume responsibility for alumni continuing education programs when compared with the categories of selected characteristics of alumni.

Ten subhypotheses in the null form were tested. The results of the analysis are presented after each subhypothesis.

**SUBHYPOTHESIS 1:** There is no significant difference between alumni's perception of who should assume responsibility for alumni continuing education programs when compared with the college in which alumni earned their first degree at Iowa State University.

The null hypothesis was rejected at the .05 level for statements 1 and 3. There was a significant difference between alumni's perception of whether Iowa State University and departments in which alumni were last enrolled should assume responsibility for alumni continuing education programs when compared with the college in which alumni earned their first degree at Iowa State University.

Table 60. Mean reaction scores related to department sponsorship of alumni continuing education programs by era and college

ERA	AGR.	ENG.	H. Ec.	S&H	V.M.	TOTAL
1926-32	3.498	3.154	3.804	2.862	4.467	3.388
1933-40	3.348	3.067	3.833	2.830	4.457	3.451
1941-52	3.267	3.250	3.611	3.196	4.618	3.631
1953-65	3.556	3.306	3.873	3.414	4.608	3.759
Total	3.413	3.198	3.784	3.081	4.564	3.575

The null hypothesis was not rejected at the .05 level for statements 2 and 4. There was no significant difference between alumni's perception of whether Iowa State University Alumni Association and other educational institutions should assume responsibility for alumni continuing education programs when compared with the college in which alumni earned their first degree at Iowa State University.

The mean reaction scores are reported in Table 61. Although the differences were not always significant, the alumni from the Colleges of Veterinary Medicine and Home Economics had higher mean reaction scores.

SUBHYPOTHESIS 2: There is no relationship between alumni's perception of who should assume responsibility for alumni continuing education programs and era in which alumni earned

Table 61. Mean reaction scores related to sponsorship of alumni continuing education by college in which first degree at Iowa State University was earned

College	Mean Reaction Scores			
	1	2	3	4
Agriculture	4.274	3.514	3.413	3.994
Engineering	4.124	3.548	3.198	3.949
Home Economics	4.455	3.784	3.784	4.122
Sciences & Humanities	4.187	3.651	3.091	4.029
Veterinary Medicine	4.512	3.667	4.564	4.147
All alumni	4.307	3.638	3.575	4.048
F value	7.4813*	2.3287	54.5446*	1.7873

\*Significant at .05 level,  $F(4,929) = 2.3800$

their first degree at Iowa State University.

The null hypothesis was rejected at the .05 level for all four statements. There was a significant negative relationship between alumni's perception of who should assume responsibility for alumni continuing education programs and era in which alumni earned their first degree at Iowa State University.

The coefficient of correlation for statement 1 was  $-.1412$ ; statement 2 was  $-.0996$ ; statement 3 was  $-.2389$  and statement 4 was  $-.1671$ . Significance at the .05 level is .0650.

Alumni in the more recent eras agreed more strongly with the statements. The means are reported in Tables 58, 59, 60

and 62.

SUBHYPOTHESIS 3: There is no significant difference between alumni's perception of who should assume responsibility for alumni continuing education programs when compared with sex.

The null hypothesis was not rejected at the .05 level for statements 1, 3 and 4. There was no significant difference between alumni's perception of whether Iowa State University, departments in which alumni were last enrolled and other educational institutions should assume responsibility for alumni continuing education programs when compared with sex.

The null hypothesis was rejected at the .05 level for statement 2. There was a significant difference between alumni's perception of whether the Iowa State University Alumni Association should assume responsibility for alumni continuing education programs when compared with sex.

The mean reaction scores are reported in Table 63. Alumnae generally had higher mean reaction scores even though this difference was not always significant.

SUBHYPOTHESIS 4: There is no significant difference between alumni's perception of who should assume responsibility for alumni continuing education programs when compared with marital status.

The null hypothesis was not rejected at the .05 level for all four statements. There was no significant difference between alumni's perception of who should assume responsibility



Table 62. Mean reaction scores related to other educational institution sponsorship of alumni continuing education programs by era and college

ERA	AGR.	ENG.	H. Ec.	S&H	V.M.	TOTAL
1926-32	3.605	3.641	3.957	3.775	3.800	3.756
1933-40	3.957	3.800	4.024	3.915	4.057	3.944
1941-52	4.156	4.045	3.000	4.022	4.336	4.094
1953-65	4.244	4.245	4.380	4.370	4.316	4.303
Total	3.994	3.949	4.122	4.029	4.147	4.048

Table 63. Mean reaction scores related to sponsorship of alumni continuing education by sex

Sex	Mean Reaction Scores			
	1	2	3	4
Male	4.200	3.597	3.579	4.041
Female	4.351	3.736	3.565	4.065
All alumni	4.307	3.638	3.575	4.048
F value	1.0889	3.8831*	0.0271	0.1606

\*Significant at .05 level,  $F_{(1,933)} = 3.8500$

for alumni continuing education programs when compared with marital status.

The mean reaction scores are reported in Table 64.

SUBHYPOTHESIS 5: There is no significant difference between alumni's perception of who should assume responsibility for alumni continuing education programs when compared with occupation.

The null hypothesis was rejected at the .05 level for statements 1 and 3. There was a significant difference between alumni's perception of whether Iowa State University and departments in which alumni were last enrolled should assume responsibility for alumni continuing education programs when compared with occupation.

The null hypothesis was not rejected at the .05 level for statements 2 and 4. There was no significant difference between alumni's perception of whether Iowa State University Alumni Association and other educational institutions should assume responsibility for alumni continuing education programs when compared to occupation.

Mean reaction scores are reported in Table 65. Alumni employed in home economics occupations tended to have the highest mean reaction scores.

SUBHYPOTHESIS 6: There is no relationship between alumni's perception of who should assume responsibility for alumni continuing education programs and salary level.

Table 64. Mean reaction scores related to sponsorship of alumni continuing education by marital status

Marital status	Mean reaction scores			
	1	2	3	4
Single	4.343	3.730	3.622	4.027
Married	4.302	3.616	3.597	4.057
Divorced	4.500	3.667	3.167	3.667
Widowed	4.571	3.619	3.476	3.857
Not known	4.300	3.700	3.511	4.053
All alumni	4.307	3.638	3.575	3.048
F value*	0.6625	0.3580	0.4388	0.6070

\*Significance at .05 level,  $F(4,929) = 2.6100$

The null hypothesis was not rejected at the .05 level for statements 1, 2 and 4. There was no significant relationship between alumni's perception of whether Iowa State University, the Alumni Association and other institutions should assume responsibility for alumni continuing education programs and salary. The relationship between alumni's perception of whether departments should assume responsibility and salary was significant.

The coefficient of correlation for statement 1 was  $-.0370$ ; statement 2 was  $+.0101$ ; statement 3 was  $-.0673$  and statement 4 was  $-.0357$ . Significance at the .05 level is  $.0650$ . The means are reported in Table 66.

Table 65. Mean reaction scores related to sponsorship of alumni continuing education by occupation of alumni

Occupation	Mean reaction scores			
	Statements			
	1	2	3	4
Veterinary Medicine	4.518	3.681	4.617	4.170
Home Economics	4.500	4.083	4.083	4.417
Education	4.491	3.818	3.667	4.030
Professions	4.333	3.778	2.889	4.222
Journalism	4.286	3.429	3.286	4.143
Agricultural Sciences	4.273	3.455	3.727	3.909
Not presently employed	4.260	3.646	3.573	4.115
Military	4.250	3.750	2.750	4.250
Engineering	4.228	3.526	3.439	3.965
Business	4.185	3.585	3.177	4.069
Farming	4.162	3.432	2.000	3.865
Sales	4.048	3.238	2.905	4.095
Science	3.833	3.583	3.083	4.417
Not known	4.220	3.595	3.328	3.948
F values	2.4001*	1.2366	15.2139*	1.1578

\*Significant at .05 level,  $F_{(13,920)} = 1.7000$

SUBHYPOTHESIS 7: There is no significant difference between alumni's perception of who should assume responsibility for alumni continuing education programs when compared with the highest degree earned.

The null hypothesis was rejected at the .05 level for statements 1, 3 and 4. There was a significant difference between alumni's perception of whether Iowa State University,

Table 66. Mean reaction scores related to sponsorship of alumni continuing education by salary level

Salary level	Mean reaction scores			
	1	2	3	4
Below \$5,000	3.000	3.793	3.385	3.000
\$5,000 - \$7,499	4.276	3.385	3.345	3.862
\$7,500 - \$9,999	4.431	3.812	3.828	4.203
\$10,000 - \$12,499	4.125	3.458	3.444	3.000
\$12,500 - \$14,999	4.269	3.667	3.628	4.103
\$15,000 - \$24,999	4.432	3.581	3.819	4.032
\$25,000 - \$49,999	4.245	3.735	3.531	4.224
Above \$50,000	4.700	3.600	3.200	4.100
Not known	4.291	3.644	3.502	4.024
All alumni	4.307	3.638	3.575	4.048

departments in which alumni were last enrolled and other educational institutions should assume responsibility for alumni continuing education programs when compared with the highest degree earned.

The mean reaction scores are reported in Table 67a. The alumni with Ph.D. degrees tended to have the highest mean reaction scores.

**SUBHYPOTHESIS 8:** There is no significant difference between alumni's perception of who should assume responsibility for

Table 67a. Mean reaction scores related to sponsorship of alumni continuing education by highest degree earned

Degree	Mean Reaction Scores			
	1	2	3	4
BS	4.271	3.623	3.391	4.017
MS	4.309	3.577	3.268	4.134
PhD, EdD	4.579	3.895	3.974	4.289
DVM	4.500	3.653	3.690	4.160
MA	4.500	3.875	3.375	4.250
MD, JD	4.400	3.400	3.400	3.653
Certificates	4.100	3.900	3.300	3.000
No degrees	3.959	3.633	3.184	3.653
All alumni	4.307	3.638	3.575	4.048
F value	3.2343*	0.6608	23.4348*	3.0403*

\*Significant at .05 level,  $F(7,926) = 2.0200$

alumni continuing education programs when compared with the college in which the highest degree was earned.

The null hypothesis was rejected at the .05 level for statements 1 and 3. There was a significant difference between alumni's perception of whether Iowa State University and the departments in which alumni were last enrolled should assume responsibility for alumni continuing education programs when compared with the college in which the highest degree was earned.

The null hypothesis was not rejected at the .05 level for statements 2 and 4. There was not a significant difference between the alumni's perception of whether the Iowa State University Alumni Association and other educational institutions should assume responsibility for alumni continuing education programs when compared with the college in which the highest degree was earned.

Alumni from the College of Veterinary Medicine had the higher mean reaction scores. The mean reaction scores are reported in Table 67b.

SUBHYPOTHESIS 9: There is no significant difference between alumni's perception of who should assume responsibility for alumni continuing education programs when compared with participation in continuing education programs in 1969.

The null hypothesis was rejected at the .05 level for all four statements. There was a significant difference between alumni's perception of who should assume responsibility for alumni continuing education programs when compared with participation in continuing education programs in 1969.

Alumni who participated in continuing education programs had the highest mean reaction scores as reported in Table 68.

SUBHYPOTHESIS 10: There is no relationship between alumni's perception of who should assume responsibility for alumni continuing education programs and expected participation in alumni continuing education programs planned for Iowa State University

Table 57b. Mean reaction scores related to sponsorship of alumni continuing education by college in which highest degree was earned

College	Mean reaction scores			
	1	2	3	4
Agriculture	4.297	3.533	3.440	3.995
Engineering	4.123	3.544	3.205	3.947
Home Economics	4.448	3.783	3.774	4.113
Sciences and Humanities	4.129	3.619	3.041	3.985
Veterinary Medicine	4.516	3.675	4.561	4.153
Education	4.500	3.000	3.000	4.500
Not known	4.625	3.750	3.187	4.562
All alumni	4.307	3.638	3.575	4.048
F value	6.0673*	1.5217	36.8298*	2.4551

\*Significant at .05 level,  $F(6,927) = 2.6100$

alumni.

The null hypothesis was rejected at the .05 level for all four statements. There was a significant positive relationship between alumni's perception of who should assume responsibility for alumni continuing education programs and expected participation in alumni continuing education programs planned for Iowa State University alumni.

The coefficient of correlation for statement 1 was +.3654;



Table 58. Mean reaction scores related to sponsorship of alumni continuing education by participation in continuing education in 1969

	Mean reaction scores			
	Statements			
	1	2	3	4
Participated	4.468	3.736	3.741	4.178
Did not participate	4.092	3.501	3.342	3.866
All alumni	4.307	3.638	3.575	4.048
F value	50.6546*	13.1713*	22.2115*	32.2682*

\*Significant at the .05 level,  $F_{(1,932)} = 3.8500$

statement 2 was +.3028; statement 3 was +.2623 and statement 4 was +.1837. Significance at the .05 level is .0650.

The means are reported in Table 69.

Table 69. Mean reaction scores related to sponsorship of alumni continuing education by expected participation in alumni continuing education

Participation	Mean reaction scores			
	Statements			
	1	2	3	4
Yes	4.606	3.934	2.867	4.160
Maybe	4.241	3.494	3.522	4.084
Definitely not	3.664	3.145	3.908	3.611
All alumni	4.307	3.638	3.575	4.048

### Types of Alumni Continuing Education Programs

To ascertain the type of educational meetings preferred by Iowa State University alumni a series of eight questions dealing with type of teaching method, location of sessions, length of sessions, size of group, facilities, frequency of training and audience were developed. The questions are in the questionnaire in Appendix A.

Since the type of educational activity depends a great deal upon the subject matter content of the program, the alumni were asked to answer the questions for three different subject matter areas. The topics representing the broad areas of occupation, personal development and community development were (1) new or refresher information for your occupation, (2) human development and (3) pollution.

Only the alumni who expressed an interest in alumni continuing education programs were asked to indicate their first and second choices from the list of alternatives provided. If any alternative provided was unacceptable they were asked to indicate this. A limited number of respondents indicated alternatives were unacceptable so this response was eliminated from the study.

Respondents did not always complete this series of questions. Some indicated only their first choice and others did not answer the questions for all three topics. The data received, however, was useable. The data dealing with types of programs was not statistically analyzed.

The responses of the alumni were tabulated on the basis of college and era to see if there were any differences associated with college as well as by subject matter content. The major deviation in response was with the College of Veterinary Medicine alumni in the occupational area. Veterinary Medicine alumni identified laboratory or practical experience as one of the methods they preferred for occupational information. There was very little difference between the alumni's choices for the three topics. The alumni's preferences are reported in Table 70.

Alumni strongly preferred the lecture and discussion method of presenting subject matter. Nearly 21% of the alumni preferred laboratory or practical experience as an alternative for receiving occupational information. Sessions with 50 or less participants were strongly preferred.

The Iowa State University campus and community meeting rooms are the preferred places for meeting facilities. Distance from home is not necessarily an important factor for occupationally oriented programs however alumni prefer the programs to be in their community.

The most frequently preferred alternative for length of session was one evening session per week for several weeks. A two hour evening session, and an all day session were the other alternatives preferred. For occupational training two or three days during a week would be acceptable for some alumni.

Alumni preferred alumni continuing education sessions to

Table 70. Preferences for alumni continuing education program  
by program alternatives and content

Program alternatives	New and refresher occupation information
<b>Teaching methods:</b>	
Lecture	7.3
Discussion	7.2
Lecture and discussion	64.9
Laboratory or practical experience	20.6
<b>Size of session:</b>	
10-20 participants	57.0
21-50 participants	36.4
51-100 participants	4.4
Over 100	1.3
<b>Facilities</b>	
Iowa State University campus	43.4
Another college campus	6.8
Hotel or motel conference	13.0
Camp-conference center	2.4
Community meeting rooms	34.4
<b>Location of session:</b>	
In home community	45.8
In immediate area (not over 75 miles)	38.6
Distance is not an important factor	15.6
<b>Length of session:</b>	
One evening session (2 hours)	12.4
One evening per week for several weeks	37.7
One day session (4-6 hours)	19.8
One day per week for several weeks	7.0
Weekend (Friday and Saturday)	7.9
Weekend (Friday, Saturday and Sunday)	1.3
Two or three days during one week	10.0
Week-long session (Monday through Friday)	3.9
<b>Frequency of session:</b>	
Every five years	4.2
Every three years	10.4
Every other year	25.0
Annually	52.0
More frequently	8.4
<b>Plan session for:</b>	
Iowa State University alumni only	5.6
College alumni	31.9
Cross-section of people in the community	14.4
Anyone interested	48.1
<b>Include husband or wife</b>	36.7 Yes

Human Development	Community problems: pollution	
10.5	7.4	Lecture
11.9	12.9	Discussion
69.6	71.4	Lecture-discussion
8.0	8.3	Laboratory
51.6	39.5	10-20
36.0	45.3	21-50
9.5	10.6	51-100
2.9	4.6	Over 100
31.0	32.0	ISU
4.4	4.3	Other campus
8.8	8.7	Hotel-motel
6.5	3.9	Camp
49.3	51.1	Community
62.5	63.1	Home
28.5	28.7	75 miles or less
9.0	8.2	Any distance
23.5	27.3	Evening-once
41.7	37.1	Evening-weekly
17.2	18.0	day-once
3.5	3.7	day-weekly
7.2	7.4	2 day weekend
2.3	1.8	3 day weekend
4.0	3.9	2-3 day-week
.6	.8	Week-long
11.1	8.0	Every 5 years
16.1	9.0	Every 3 years
28.6	28.8	Every other year
39.1	47.2	Annual
5.1	7.0	More often
2.8	2.0	ISU alumni
15.5	7.8	College alumni
27.0	32.3	Cross-section
54.7	57.9	Anyone
87.9	87.4	Spouse
Yes	Yes	

be held annually. Planning the sessions for only Iowa State University alumni was not preferred. The most frequently checked alternative was "anyone interested". Respondents indicated planning programs to include husbands and wives was preferred. In the occupational area it was less acceptable.

## CHAPTER V

## DISCUSSION

The discussion of the findings in this chapter is organized into the following two sections: (1) Conclusions and (2) Recommendations. The recommendations section will contain both recommendations for additional research and recommendations for implementation of alumni continuing education programs.

## Conclusions

Staff members giving leadership to alumni continuing education programs are faced with a series of questions related to the development and implementation of programs for alumni.

Five of these questions are:

1. What is the commitment of alumni to continuing education?
2. What are the needs and interest of our alumni?
3. Who will participate in alumni continuing education programs?
4. Who should assume responsibility for alumni continuing education?
5. What type of educational programs do alumni prefer?

Data from this research project provided some information for tentative answers to these questions. The discussion of conclusions is organized around these questions.

What is the commitment of alumni to continuing education?

Two factors were used to analyze the commitment of alumni

to continuing education. Alumni responded to four reaction statements designed to obtain information about their obligation and need for continuing education in occupational and nonoccupational areas. Alumni were also asked to indicate if they would participate in alumni continuing education programs planned for Iowa State University alumni. Both factors are discussed in this section.

Obligation and need Over 87% of the alumni indicated they strongly agreed that they have an obligation to continue their education. The mean reaction score, based on a five point scale, related to obligation to continue occupational education was 4.400. The mean was 4.351 for nonoccupational continuing education.

The statistical analysis of the factors related to the obligation and need for continuing education is summarized for each of the four statements in the following paragraphs.

Statement 1: The analysis of factors related to alumni's perception of their obligation to continue their education in occupational areas revealed that the following factors had a significant relationship at the .05 level: college in which alumni's first Iowa State University degree was earned, era in which alumni received their first degree, sex, occupation, salary, highest degree, college in which the highest degree was earned, participation in community activities (service clubs, chamber of commerce groups, professional societies, youth groups, alumni groups and school groups), number of different community



activities, number of different leadership responsibilities assumed, participation in continuing education programs in 1969, topics of the 1969 continuing education programs (new or refresher occupational information, child or human development, world or international affairs, community problems and/or action, investments and insurance and estate planning, and leadership), topics of future alumni continuing education programs (new or refresher occupational information, child or human development, community problems and/or action, investments and insurance and estate planning, and leadership), and expected participation in alumni continuing education programs.

The following factors were not significant at the .05 level: marital status, attendance at an institution of higher education in addition to Iowa State University, participation in student organizations and activities, participation in community activities (church groups, fraternal organizations, special interest groups, and political groups), topics of 1969 continuing education programs (homemaking information, preparing for retirement, recreation and physical fitness, arts and crafts and hobbies, foreign language, and religious training) and topics of future alumni continuing education programs (homemaking information, world or international affairs, preparing for retirement, recreation and physical fitness, arts and crafts and hobbies, and foreign language).

Statement 2: The analysis of the factors associated with the obligation of alumni to continue their education in

nonoccupational areas revealed a significant difference existed at the .05 level for the following factors: college in which the alumni's first degree at Iowa State University was earned, sex, occupation, participation in student organizations and activities, participation in community activities (special interest groups and church groups), number of different community activities, number of different leadership responsibilities assumed, participation in continuing education in 1969, topics of 1969 continuing education programs (new or refresher occupational information, world or international affairs, preparing for retirement, investments and insurance and estate planning, and leadership), topics for future alumni continuing education programs (new or refresher occupational information, child or human development, world or international affairs, community problems and/or action, investments and insurance and estate planning, arts and crafts and hobbies, and leadership) and expected participation in alumni continuing education programs.

The following factors were not significant at the .05 level: era in which alumni received their first degree, marital status, salary, highest degree earned, college in which the alumni's highest degree was earned, attendance at an institution of higher education in addition to Iowa State University, participation in community activities (youth groups, school groups, fraternal organizations, service clubs, chamber of commerce groups, professional societies, Iowa State University alumni groups, and political groups), topics of 1969 continuing

education programs (homemaking information, child or human development, recreation and physical fitness, arts and crafts and hobbies, foreign language, and religious training) and topics for future alumni continuing education programs (homemaking information, preparing for retirement, recreation and physical fitness, and foreign language).

Statement 3: The factors related to the need for additional occupational training which were significant at the .05 level were: college in which alumni's first degree at Iowa State University was earned, era in which alumni received their first degree, sex, occupation, salary, highest degree earned, college in which the alumni's highest degree was earned, participation in community activities (service clubs, chamber of commerce groups, professional societies, church groups, youth groups, alumni groups, and school groups), number of different community activities, number of different leadership responsibilities assumed, participation in continuing education programs in 1969, topics of continuing education programs in 1969 (new or refresher occupational information, child or human development, community problems and/or action, recreation and physical fitness, investments and insurance and estate planning, leadership, and religious training) and expected participation in alumni continuing education programs.

The factors that were not significant at the .05 level were: marital status, attendance at an institution of higher education in addition to Iowa State University participation in

student organizations and activities, participation in community activities (fraternal organizations, special interest groups, and political groups), topics of 1969 continuing education programs (homemaking information, world or international affairs, preparing for retirement, arts and crafts and hobbies, and foreign language ) and topics for future alumni continuing education programs (homemaking information, world or international affairs, preparing for retirement, recreation and physical fitness, arts and crafts and hobbies, and foreign language).

Statement 4: The analysis of factors associated with the need for additional nonoccupational information revealed the following factors to be significant at the .05 level: college in which alumni's first degree at Iowa State University was earned, era in which alumni received their first degree, occupation, college in which the alumni's highest degree was earned, participation in community activities (professional societies, church groups, special interest groups, youth groups, Iowa State University alumni groups, school groups, and political groups), number of different community activities, number of different leadership activities assumed, participation in continuing education programs in 1969, topics of 1969 continuing education programs (new or refresher occupational information, homemaking information, child or human development, world or international affairs, community problems and/or action, preparing for retirement, and investments and insurance and estate planning, leadership, and religious training)

and expected participation in alumni continuing education programs.

Factors not significant at the .05 level were: sex, marital status, salary, highest degree earned, attendance at an institution of higher education in addition to Iowa State University, participation in student organizations and activities, participation in community activities (service clubs, chamber of commerce groups, and fraternal organizations), topics of 1969 continuing education programs (recreation and physical fitness, arts and crafts and hobbies, and foreign language) and topics of future alumni continuing education programs (recreation and physical fitness, arts and crafts and hobbies, leadership, and foreign language).

**SUMMARY:** Although not always statistically significant, the findings related to the perception of the obligation and need for continuing education can give some valuable insights into alumni continuing education. The following conclusions are based on the research findings from this and other studies, educational principles and personal experience in the field of adult education.

The mean reaction scores for the four statements indicate a strong consistent positive reaction toward the need and obligation for participation in continuing education. There is some evidence, although not fully substantiated, that alumni might be more concerned about nonoccupational continuing

education than they are about occupational information.

Therefore:

**CONCLUSION 1:** Iowa State University alumni have a definite commitment to continue their education.

Veterinary Medicine alumni consistently indicated a high value on continuing their education in occupationally related areas. Mean reaction scores related to the first degree earned, highest degree earned, and occupation confirmed this trend. The level of interest in nonoccupational continuing education was not as consistently high as it was for occupational continuing education.

Alumni from the College of Engineering and the College of Sciences and Humanities had low mean reaction scores related to both occupational and nonoccupational continuing education. The College of Home Economics alumni placed a high value on continuing education in nonoccupational areas but a lower value on occupationally related continuing education.

Alumni who graduated in the more recent eras had higher mean reaction scores. In general, the more recent graduates have a higher commitment to continue their education and recognize a need for additional continuing education.

Figures 2 through 6 graphically present the differences that exist between era and college. Therefore:

**CONCLUSION 2:** There is a difference in obligation and need for alumni to continue their education related to the era and

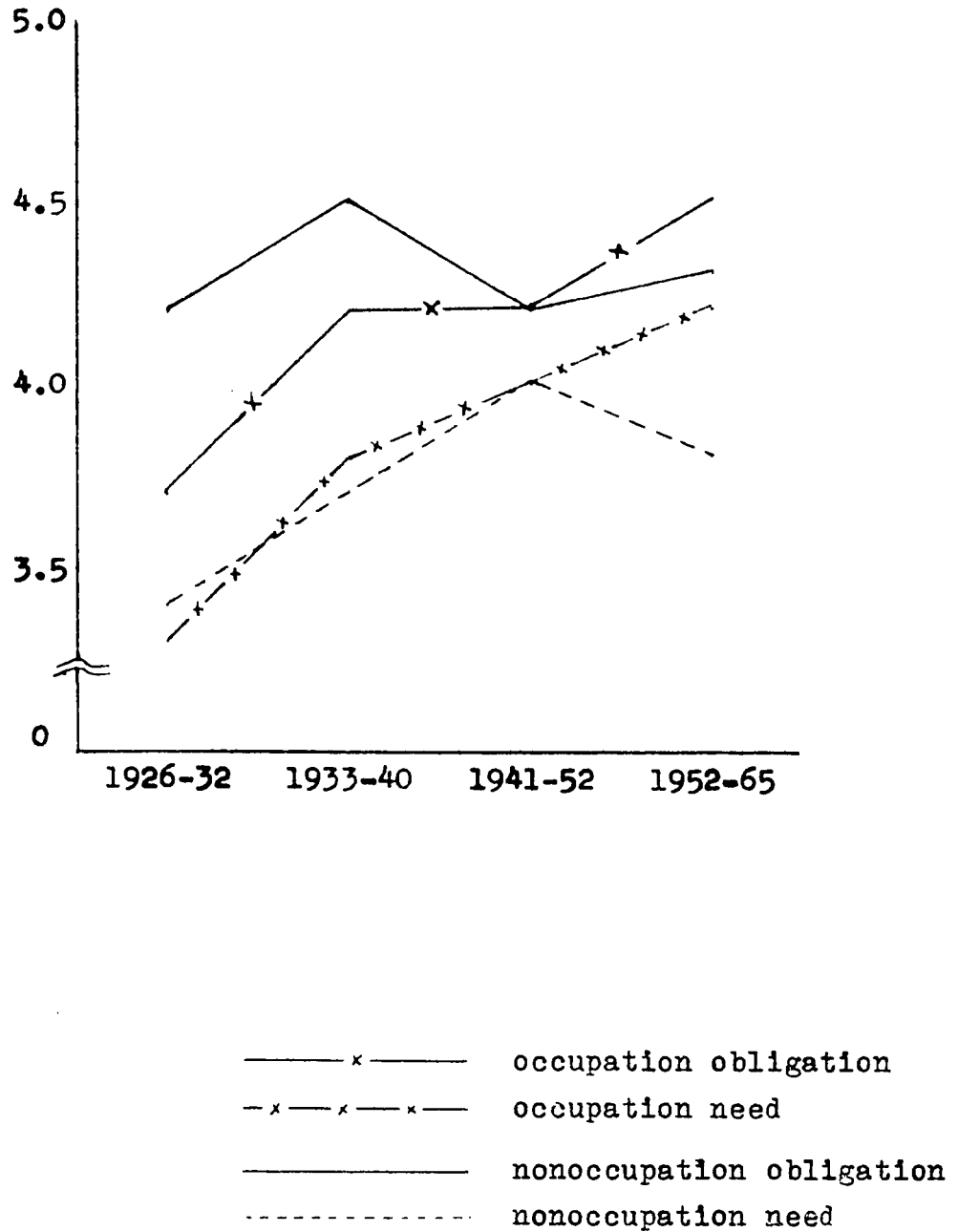


Figure 2. Mean reaction scores related to perception of obligation and need for continuing education by era for College of Agriculture alumni

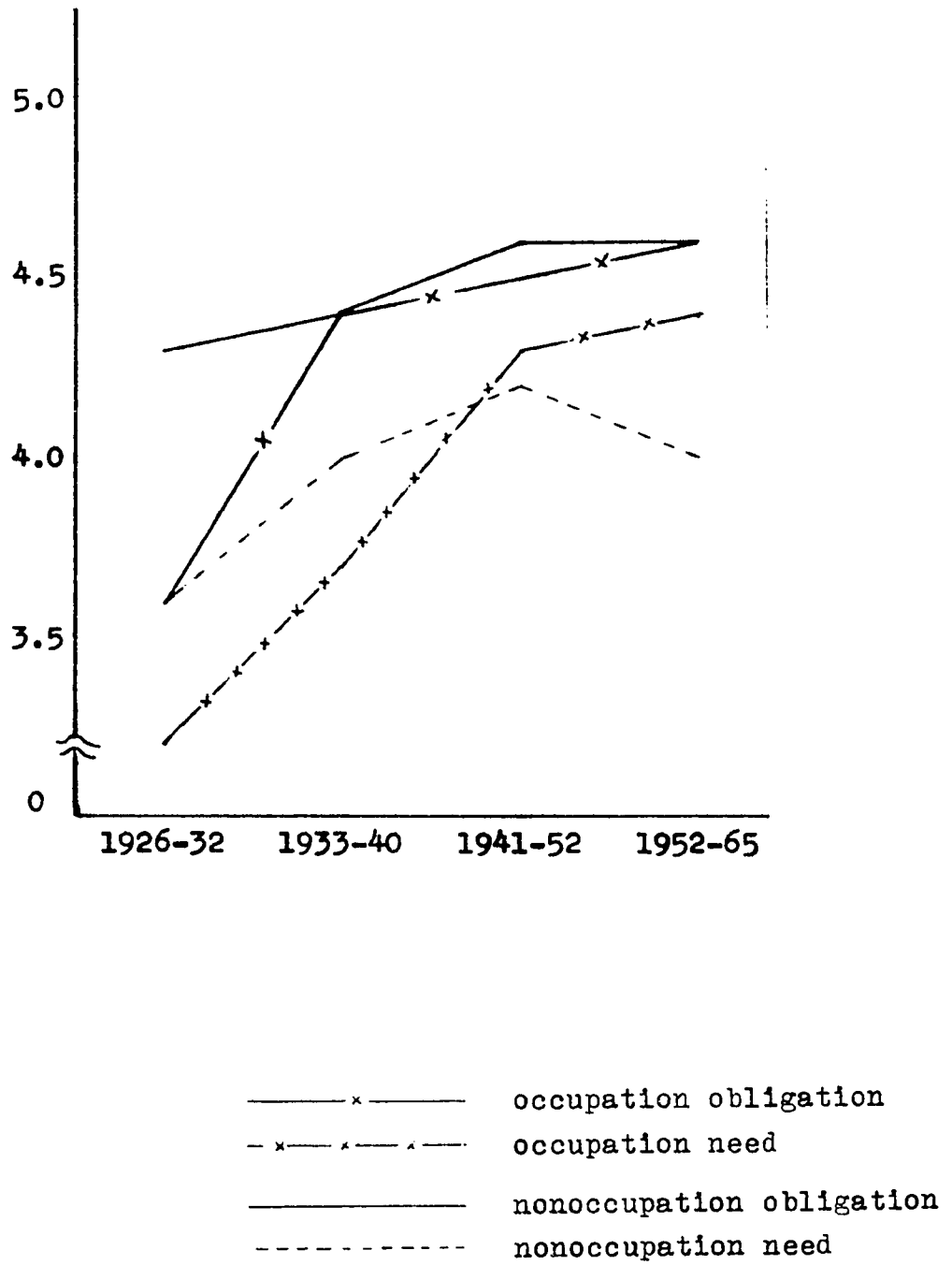


Figure 3. Mean reaction scores related to perception of obligation and need for continuing education by era for College of Engineering alumni



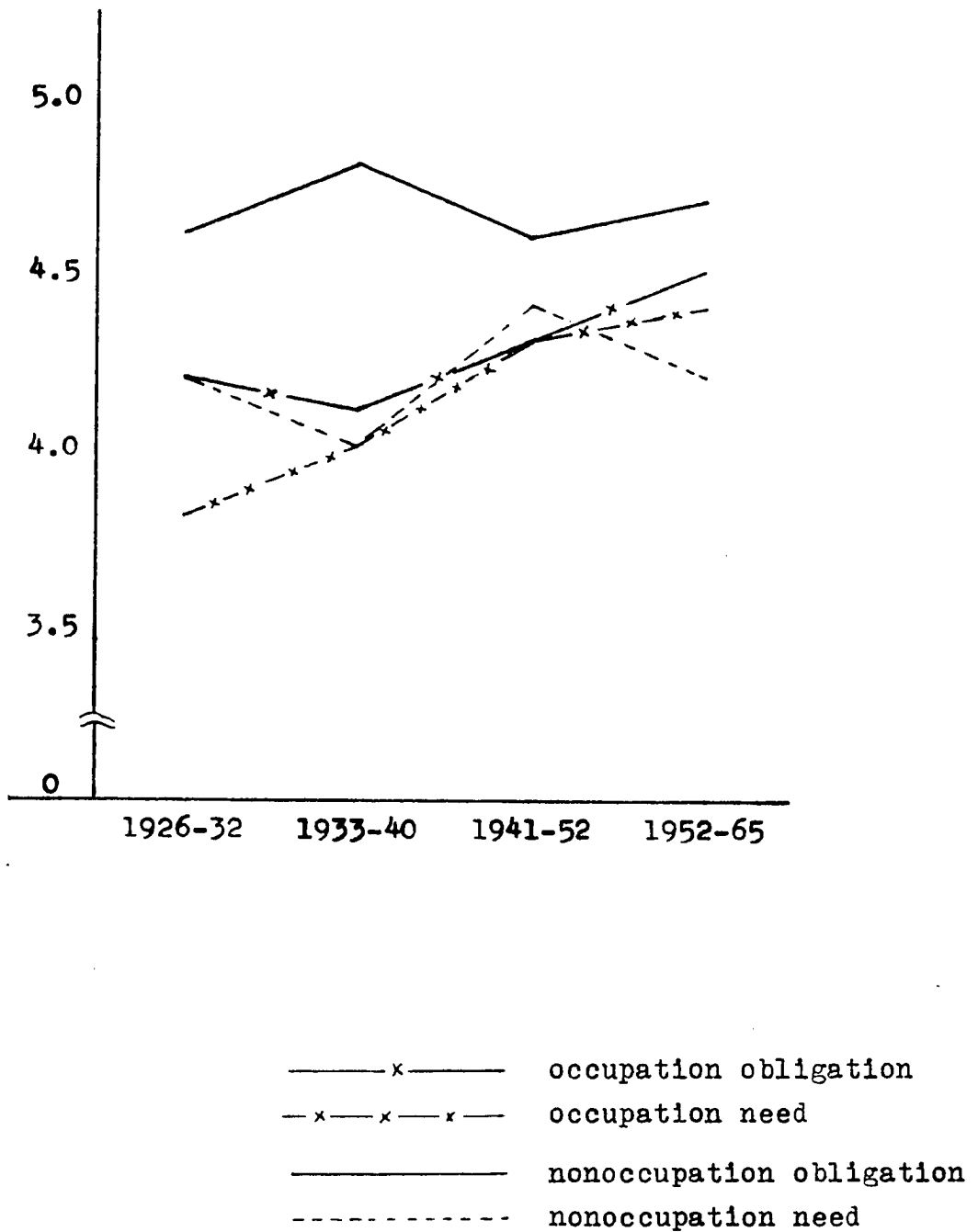


Figure 4. Mean reaction scores related to perception of obligation and need for continuing education by era for College of Home Economics alumni

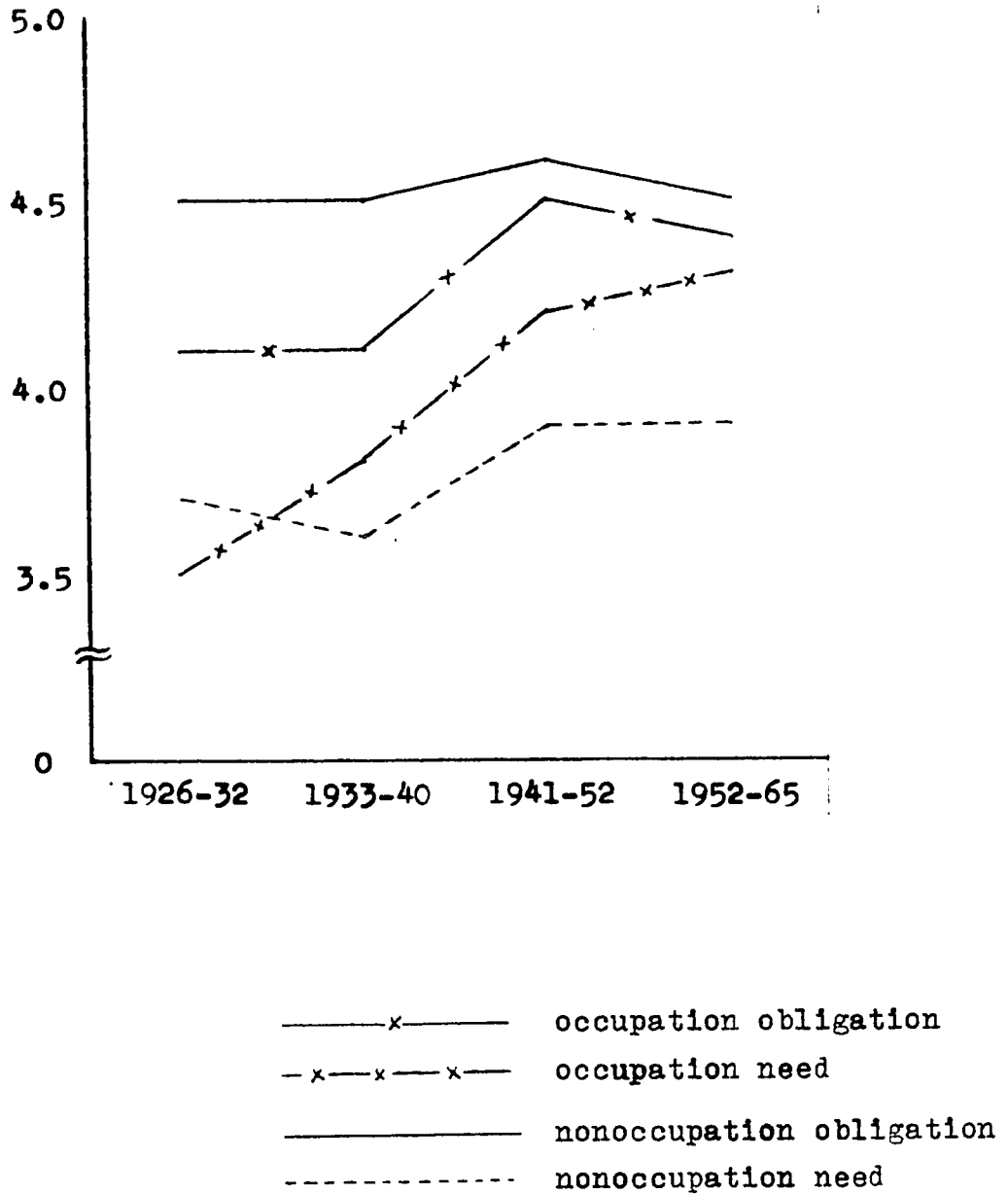


Figure 5. Mean reaction scores related to perception of obligation and need for continuing education by era for College of Sciences and Humanities alumni

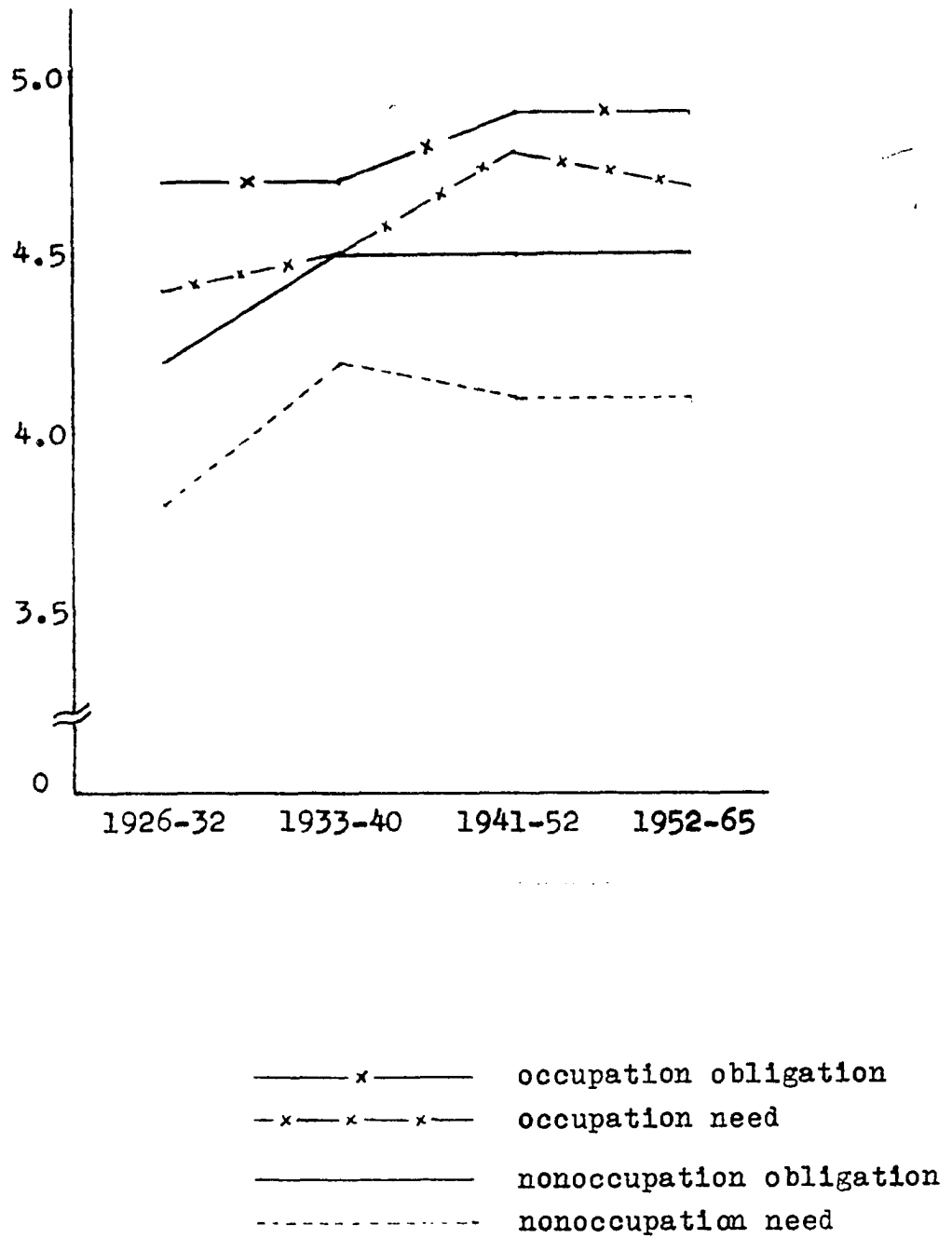


Figure 6. Mean reaction scores related to perception of obligation and need for continuing education by era for College of Veterinary Medicine alumni

college in which the alumni's degree was earned.

Alumni who participated in various categories of community activities tended to have higher values of continuous education. Variation existed between the level of participation but the difference was not always significant. Those in leadership capacities generally had higher mean reaction scores than members with nonmembers having the lowest scores. As the number of different community activities increased the mean reaction scores tended to increase. The same relationship existed for number of leadership responsibilities assumed. However, alumni who participated in student organizations and activities had lower mean reaction scores. Therefore:

**CONCLUSION 3:** Alumni who have participated in community activities tend to have a higher value of continuous education.

As to be expected, participants in continuing education programs placed a higher value on both occupational and nonoccupational continuing education than nonparticipants. The alumni who indicated that they would like to participate in alumni continuing education programs also have higher mean reaction scores related to perception of obligation and need to continue their education. Therefore:

**CONCLUSION 4:** Participation and expected participation in continuing education programs is associated with a higher value of continuing education.

Commitment to participate      A total of 86% of the alumni indicated they would participate in alumni continuing education programs planned for Iowa State University alumni if the topic was of interest to them. The mean level of expected participation, based on a three point scale was 2.262 for all alumni.

The following factors associated with participation in alumni continuing education programs were significant at the .05 level: college in which alumni's first degree at Iowa State University was earned, era in which alumni received their first degree, occupation, salary, highest degree earned, college in which the alumni's highest degree was earned, participation in student organizations and activities, participation in community activities (service clubs, professional societies, church groups, youth groups, Iowa State University alumni groups, school groups, political groups, and special interest groups), number of different community activities, number of different leadership responsibilities assumed, participation in continuing education programs in 1969, topics of 1969 continuing education programs (new or refresher occupational information, homemaking information, world or international affairs, community problems and/or action, investments and insurance and estate planning, arts and crafts and hobbies, leadership and religious training).

The following factors were not significant at the .05 level: sex, marital status, attendance at an institution of higher learning in addition to Iowa State University, membership

in honor societies, participation in community activities (chamber of commerce groups and fraternal organizations), topics of 1969 continuing education programs (child or human development, recreation and physical fitness, and foreign language).

**SUMMARY:** With only 14% of the alumni indicating they definitely would not participate in alumni continuing education programs it is evident that alumni are interested in having alumni continuing education programs developed at Iowa State University. Therefore:

**CONCLUSION 5:** Iowa State University alumni strongly endorse the idea of alumni continuing education.

More College of Veterinary Medicine and Home Economics alumni indicated they would participate in alumni continuing education programs than did alumni from other colleges. Alumni from the Colleges of Sciences and Humanities and Engineering are least likely to participate.

Alumni in the 1941-52 era are more likely to participate. It could be assumed that these alumni are more established in their occupation and are freer and/or feel a stronger need to participate in continuing education programs. The alumni in the 1926-32 era are least likely to participate. Therefore:

**CONCLUSION 6:** There is a difference in the commitment to alumni continuing education related to the era and college in which the alumni's degree was earned.

Alumni who were active in student organizations and activities, members of honor societies, are currently involved in community activities and have assumed leadership responsibilities generally have higher mean level of expected participation scores. Therefore:

CONCLUSION 7: Alumni who have been active in student activities and are currently involved in community activities are likely to be involved in alumni continuing education programs.

Alumni who did not complete their degree programs had a low mean level of expected participation score. Those alumni who earned advanced degrees had higher scores. The alumni who participated in alumni continuing education programs in 1969 indicated they would more likely attend alumni continuing education programs than those who did not participate. Therefore:

CONCLUSION 8: Alumni involved in additional educational experiences beyond their first degree program are more likely to participate in alumni continuing education.

These factors alone do not make up the criteria for participation. Factors such as location, time of year, subject matter content and length of session are important considerations in the involvement of alumni in continuing education programs.

What are the needs and interests of our alumni?

During 1969 58.4% of the alumni in the sample participated in continuing education programs. Earlier it was reported that over 87% of the alumni indicated they strongly agreed they had an obligation to continue their education. It was also reported that 86% of the alumni would be interested in participating in alumni continuing education programs planned for Iowa State University alumni.

The participation of adults in continuing education programs depends a great deal upon their interest in the topic of the educational program. A review of the topics of programs in which alumni participated in 1969 shows that topics related to the alumni's occupation were the most popular. A total of 42.3% of the alumni in this sample participated in an educational program related to their occupation. The other topics that were of interest to alumni were community problems and/or action, investments and insurance and estate planning, and religious training.

When asked to indicate topics in which they would be interested for alumni continuing education programs the occupationally related topics again were the most frequent. A total of 563 alumni or 60.3% indicated an interest in participating in alumni continuing education programs related to their occupation. Other popular topics for future alumni continuing education programs were community problems and/or action, and investments and insurance and estate planning.



The topics for 1969 continuing education programs that had the lowest participation were foreign language, child or human development, world or international affairs, and preparing for retirement. Foreign language was the least preferred topic for alumni continuing education programs. A review of the data by era did not indicate any apparent difference in selection of topics. There was some variation between colleges but this was only of minor importance. Therefore:

CONCLUSION 9: Occupationally related topics are the most popular topics for continuing education programs. Community problems and/or action, and investments and insurance and estate planning are also topics in which alumni are interested.

To further ascertain the interest and needs of alumni in educational programs the respondents were asked to indicate whether they would prefer to attend educational programs rather than traditional alumni functions. They were also asked if they thought alumni class reunions and alumni club social functions satisfied a need for them.

The statistical analysis of the factors related to needs and interests of alumni in educational programs rather than the traditional alumni functions of class reunions and alumni club social functions is summarized for each of the four statements in the following paragraphs.

Statement 1: The analysis of factors related to alumni's preference of educational programs rather than alumni class

reunions revealed the following factors to be significant at the .05 level: college in which the alumni earned their first degree at Iowa State University, era in which the first degree was earned, occupation, highest degree earned, college in which the highest degree was earned, community activities (professional societies and ISU alumni groups), participation in continuing education in 1969, number of leadership responsibilities assumed.

The factors that were not significant at the .05 level were: sex, marital status, salary, attendance at an institution of higher education in addition to Iowa State University, participation in student organizations and activities, membership in honor societies, community activities (all except professional societies and ISU alumni groups), number of different community activities.

Statement 2: The factors related to alumni's preference of educational programs rather than alumni club social functions that were significant at the .05 level were: college in which the alumni earned their first degree at Iowa State University, era in which the first degree was earned, occupation, highest degree earned, college in which the highest degree was earned, community activities (professional societies and special interest groups) and participation in continuing education in 1969.

The factors that were not significant at the .05 level were: sex, marital status, salary, attendance at an institution of higher education in addition to Iowa State University, participation in student organizations, membership in honor societies, community activities (all except professional societies and

special interest groups), number of leadership responsibilities assumed.

Statement 3: The factors related to whether class reunions satisfied a need for alumni that were significant at the .05 level were: college in which the alumni earned their first degree at Iowa State University, era in which the first degree was earned, occupation, participation in student organizations and activities, community activities (professional societies, ISU alumni groups, fraternal organizations), number of different community activities.

The factors that were not significant at the .05 level were: sex, marital status, salary, highest degree earned, college in which the highest degree was earned, attendance at an institution of higher education in addition to Iowa State University, community activities (all except professional societies, ISU alumni groups, fraternal organizations), membership in honor societies, participation in continuing education in 1969, and number of leadership responsibilities assumed.

Statement 4: The factors related to whether alumni club social functions satisfied a need that were significant at the .05 level were: college in which the alumni earned their first degree at Iowa State University, era in which the first degree was earned, marital status, occupation, participation in student organizations, community activities (ISU alumni groups, fraternal organizations and political groups), number of leadership responsibilities assumed.

The factors that were not significant at the .05 level

were: sex, salary, highest degree earned, college in which the highest degree was earned, attendance at an institution of higher education in addition to Iowa State University, members in honor societies, community activities (all except ISU alumni groups, fraternal organizations and political groups), and participation in continuing education in 1969.

SUMMARY: Over 64% of the alumni indicated they would rather attend an educational program rather than attend a typical class reunion and over 69% said they would rather attend an educational program rather than participate in alumni club social functions. Only 18.1% said that reunions satisfy a need for them and 14.9% said that participation in alumni club social functions satisfy a need for them. Therefore:

CONCLUSION 10: The traditional alumni reunions and alumni club social functions are no longer effective means of satisfying needs of alumni.

College of Veterinary Medicine alumni had the highest mean scores indicating they preferred educational programs to the traditional alumni functions. At the same time they indicated that class reunions and alumni club social functions satisfy a need for them. College of Agriculture alumni rated alumni class reunions and alumni club social functions high and rated educational programs low. It should be noted that all of the means related to educational programs were **between** the "no opinion" and the "moderately agree" categories. The means for the

statements that traditional alumni functions satisfy a need fall between the "no opinion" and "moderately disagree" category.

Alumni in the more recent eras placed a higher value on educational programs and a lower value on traditional alumni functions. Only one fifth of the alumni in the 1926-32 era indicated they strongly or moderately agreed that class reunions and alumni club social functions satisfied a need for them. In the same era over half of the alumni indicated they would prefer to attend an educational program rather than traditional alumni functions. Therefore:

**CONCLUSION 11:** There is a difference in the degree of interest in educational programs rather than the traditional alumni functions related to the era and college in which the alumni earned their degrees.

The alumni involved in the various professions--education, engineering, home economics, veterinary medicine--indicated a stronger interest in educational programs. Those involved in farming rated class reunions and alumni club social functions as significant experiences. Members of professional societies and associations prefer to participate in educational programs. Therefore:

**CONCLUSION 12:** Alumni who are involved in the professions are more interested in educational programs rather than traditional alumni functions.

In regard to class reunions, alumni who were members of Iowa State University alumni groups indicated they were less interested in educational programs than the members who assumed leadership responsibilities and the nonmembers. The members who assumed leadership responsibilities were most interested in educational programs.

In regard to alumni club social functions, the alumni who were not members of Iowa State University alumni groups indicated a stronger preference for educational programs.

CONCLUSION 13: Although alumni indicated a strong preference for educational programs in place of traditional alumni functions there was a difference in the way nonmembers and members and members who have assumed leadership responsibilities in Iowa State University alumni groups reacted to traditional alumni functions.

It is evident that the alumni continuing education programs are considered to be an appropriate means of continuing education. It appears that some effort needs to be made to help alumni understand the appropriateness of educational programs being offered in lieu of or in addition to typical alumni functions.

Who will participate in alumni continuing education programs?

One measure of who will participate in alumni continuing education programs can be obtained by looking at who has participated in continuing education programs.

The analysis of the factors related to level of participation in continuing education programs revealed the following factors were significant at the .05 level: college in which the alumni's first degree at Iowa State University was earned, occupation, highest degree earned, college in which alumni's highest degree was earned, participation in community activities (all except school groups), number of different community activities, number of different leadership responsibilities assumed, topics of 1969 continuing education programs (all except child or human development and foreign language), topics for future alumni continuing education programs (all except community problems and/or action) and expected participation in alumni continuing education, participation in student organization or activities.

The following factors were not significant at the .05 level: era in which alumni received first degree, sex, marital status, salary, attendance at an institution of higher education in addition to Iowa State University and activities and membership in honor societies.

During 1969, 58.4% of the alumni in this sample participated in continuing education programs. The percentage ranged from 42.9% for those who graduated from the College of Engineering to 73.1% for those who graduated from the College of Veterinary Medicine. The mean number of programs for all alumni was 2.781.

Alumni from the College of Veterinary Medicine participated

in more continuing education programs than other alumni. This pattern was consistent whether you looked at occupation, highest degree earned or college in which alumni earned either their first degree or their highest degree.

College of Agriculture alumni also participated in a large number of programs. The alumni from the College of Engineering and College of Sciences and Humanities were among those who had a lower percent of participants and participated in fewer continuing education programs.

The highest percent of alumni participating in continuing education programs was in the 1941-52 era. The lowest number was in the 1926-32 era. Therefore:

**CONCLUSION 14:** There is a difference in the level of participation in continuing education programs related to the era and college in which the alumni's degree was earned.

Participation studies in adult education, like Johnstone and Rivera (10), report that adult participation in continuing education programs increase as the level of education increases. Studies in which the educational level of adults is held constant are not readily available. A review of the factors significantly related to participation in adult or continuing education is presented on page 180. Some of the more significant differences for educators planning alumni continuing education programs are presented in the following paragraphs.

Participation in student organizations and activities and



participation in adult community activities was significantly related to participation in continuing education. Those alumni in leadership positions tended to participate in more education programs than those who did not have leadership responsibilities.

In addition to the veterinary professions, alumni in education, home economics and other professional occupations participated in more programs.

Men participated in more programs than women. Alumni who were not married participated in the fewest number of programs while those who were married participated in the largest number. These differences were not statistically significant.

Therefore:

CONCLUSION 15: Significant differences do exist when comparing socio-economic factors with participation in adult and continuing education when the educational level is held constant.

Alumni indicating that they definitely would not participate in alumni continuing education programs participated in more continuing education programs in 1969 than those who indicated an interest in alumni continuing education programs planned specifically for Iowa State University alumni. It was surmised that the alumni who are already active in continuing education programs are not seeking additional educational opportunities. On the other hand, those who have not been active

in continuing education programs may be looking for a type of program not regularly available to them in the traditional program offerings. Continuing education programs planned specifically for college and university alumni would be in this category.

Who should assume responsibility for alumni continuing education?

Various groups within the structure of Iowa State University can and should be involved in the development and implementation of alumni continuing education programs. To secure ideas related to who should assume responsibility for continuing education four agree-disagree statements were presented for alumni's reactions. The following paragraphs summarize the statistical analysis of the statements regarding the sponsorship of alumni continuing education programs.

Statement 1: The analysis of the factors related to whether Iowa State University should sponsor alumni continuing education programs revealed the following factors were significant at the .05 level: college in which the first degree was earned at Iowa State University, era in which the first degree was earned, occupation, highest degree earned, college in which highest degree was earned, participation in continuing education in 1969 and expected participation in alumni continuing education.

The factors that were not significant at the .05 level were: sex, marital status and salary.

Statement 2: The factors related to whether the Iowa State University Alumni Association should sponsor alumni continuing education programs that were significant at the .05 level were: era in which the alumni received their first degree, sex, participation in continuing education in 1969, and expected participation in alumni continuing education.

The factors that were not significant at the .05 level were: college in which the alumni earned their first degree at Iowa State University, marital status, salary, occupation, highest degree earned, and college in which the highest degree was earned.

Statement 3: The factors related to the role departments within a college play in alumni continuing education that were significant at the .05 level were: college in which the alumni earned their first degree at Iowa State University, era in which the first degree was earned, occupation, highest degree earned, college in which the highest degree was earned, participation in continuing education in 1969 and expected participation in alumni continuing education.

The factors that were not significant at the .05 level were: sex, marital status and salary.

Statement 4: The factors related to whether other educational institutions play a role in alumni continuing education that were significant at the .05 level were: era in which the first degree was earned, highest degree earned, participation in continuing education in 1969, and expected participation in alumni

continuing education programs.

The following factors were not significant at the .05 level: college in which alumni earned their first degree at Iowa State University, sex, marital status, salary, occupation and college in which the highest degree was earned.

Nearly 85% of the alumni felt that Iowa State University should provide opportunities for alumni to participate in educational programs. At the same time 55.4% indicated that the Iowa State University Alumni Association should be involved in continuing education. It is notable that 10.1% indicated that they should not be involved. The department in which alumni were last enrolled was not a strong choice as a source of continuing education programs.

Slightly over 81% of the alumni reported they also looked to educational institutions and agencies other than Iowa State University for continuing education opportunities. There was some indication that this represented a change for alumni in the older eras as compared to those who were recent graduates. Therefore:

CONCLUSION 16: Alumni feel strongly that Iowa State University should make available to them opportunities for continuing their education.

CONCLUSION 17: The Office of Alumni Affairs is seen as a relevant source of educational programs for alumni but there is

evidence that some alumni do not see this as clearly and concisely related to alumni affairs and activities.

CONCLUSION 18: Alumni do look to other agencies and educational institutions as a source of education programs.

What type of education programs do alumni prefer?

One might argue that because college and university alumni have had more successful educational experiences than the average adult participant they would prefer a different type of educational program.

Data from this study show that the type of program preferred is a lecture-discussion format in small groups (usually 10-21 people) located in their own community. The Iowa State University campus is also an acceptable location for educational programs. The programs should be short sessions, conducted over a period of time, rather than a concentrated program in a short period of time. The programs should be planned for both husbands and wives if the subject is appropriate. Annual sessions are preferred.

CONCLUSION 19: The type of educational program preferred by the Iowa State University alumni is basically no different than is normally recommended for adult education programs.

An interesting point is that the alumni indicated they would prefer to have the programs open to anyone interested. This would have the effect of negating the basic premise of alumni continuing education -- that is, the planning of educational programs for those who have achieved a high level of educational expertise.

#### Recommendations

Two separate but interrelated types of recommendations can evolve from research. First of all a benchmark study should identify areas in which more sophisticated research is needed. Secondly, the research can provide ideas for program implementation. Both types of recommendations are presented.

#### For further research

As was indicated in Chapter II the concept of continuing education requires a new look at the whole educational process. Relatively little emphasis had been placed on identification of the factors associated with implementing the concept throughout the educational system. Some educators and writers have shared their ideas, concerns and biases but little has been done to integrate these into a workable structure of concepts and principles related to continuing education.

Attention needs to be given to the development and testing of teaching methods, approaches, subject matter content, administrative structure and other factors that will enhance and promote the development of continuous learners.

Very little of what is known about continuous learners has been validated with research even though continuous learners are the end product of the concept of continuous education. Much information is needed about continuous learners and the process of how they became continuous learners. Therefore:

**RECOMMENDATION 1:** Attention should be given to research that will provide information for the further refinement of the concept of continuing education on both the philosophical and practical levels.

Based on this research and other educational research, it is evident that additional information about the individuals involved in continuous education is needed. Frequently the next step after a study of this type is to further refine socio-economic variables and adapt the study to a different audience. The refinement of the socio-economic variables will not materially add to the body of knowledge about alumni continuing education and participants in continuous education.

Based on this research project and other research, there is a need to study attitudes associated with continuous learning. An attitudinal study could be done with a smaller sample and would be more intensive in nature. Therefore:

**RECOMMENDATION 2:** Attitudinal studies dealing with the attitudes related to continuous education should have high priority.

Specifically related to Iowa State University is the question of whether alumni who have migrated outside of Iowa to

live and work are like or unlike those residing in Iowa in their interest and concern for continuing education. Furthermore, there is a question of what responsibility Iowa State University should assume toward out of state alumni in relation to continuing education.

An exploratory project of a very limited scope could provide some important data. A low cost project might be developed using the basic format of this study and a similar questionnaire. A small sample could be statistically drawn and further reduce the time and money needed. Therefore:

**RECOMMENDATION 3:** A study should be made to identify needs, interests and concerns related to continuing education of Iowa State University alumni living outside the geographic boundaries of Iowa.

A wide variety of alumni continuing education programs are being conducted in various institutions across the country. Some of these programs represent innovative type endeavors while many are the traditional adult education programs adapted for college and university alumni. Iowa State University has conducted several alumni education programs over the past several years.

There is a need to conduct research projects to determine the effectiveness of alumni continuing education programs. The continuous offering of a program because it draws participants and appears to meet a need is not sufficient in the time of



limited finances for education. Therefore:

RECOMMENDATION 4: Small research projects designed to determine the effectiveness of specific alumni continuing education programs shall be an integral part of all alumni continuing education programs.

Alumni class reunions and alumni club social functions have been the mainstay of alumni affairs programs and a means of alumni contact with their alma mater. The data gathered in this study and the comments by many college and university alumni indicate that these functions are not highly relevant for many alumni. Before these events are deemed as ineffective and irrelevant education methods, a careful analysis of their purposes, accomplishments and possible adaptations is needed. Therefore:

RECOMMENDATION 5: A study of alumni class reunions and alumni club social functions should be made at an early date to ascertain the effectiveness of these programs and how they can be adapted to meet the needs of more alumni.

There is a need to establish some type of bench mark research that will substantiate the effect of the concept of continuous education upon students, faculty and the institution. Prior to the time that an institution of higher education embarks on an active program of implementing the concept of continuous education, a study designed to establish the basis for later evaluation should be made.

This type of research, although normally not done, would establish a sound basis for making logical and critical evaluation of the effectiveness of the concept of continuous education. Therefore:

RECOMMENDATION 6. A bench mark study establishing a basis for future evaluation of continuous education programs, including alumni continuing education programs, should be made.

Although essentially not a recommendation for further research there is one related recommendation that could have a significant affect on the status of alumni continuing education. Research related to alumni continuing education is needed. At the present time there is no one person or group of educators or researchers giving leadership to alumni continuing education.

To increase the effectiveness and impact of alumni continuing education it would be desirable to have leadership in philosophical thought and research, both action and basic, being given to alumni continuing education. Therefore:

RECOMMENDATION 7: The American Alumni Council and others interested in alumni continuing education should encourage the development of a strong research program in alumni continuing education at one or more college or university.

#### For program implementation

The following suggestions for the implementation of alumni continuing education programs are made specifically for Iowa

State University but they also have relevancy for other educational institutions.

The commitment of an institution to the concept of continuous education is a significant commitment. It affects all levels of the institution--students, faculty, administrations and other related groups. An active alumni continuing education program needs the full commitment of the university to continuing education. Therefore:

RECOMMENDATION 1: The extent of the commitment of Iowa State University to the concept of continuing education should be ascertained before embarking on an active program of alumni continuing education.

At the time of a commitment to pursue an active program in continuous education an institutional-wide analysis of the factors that encourage the development of continuous learners is needed. The factors that might limit the development should also be identified.

Specifically at Iowa State University, it would be important to determine why the differences in this study related to specific colleges exist. Furthermore, there is a need to determine if there are other significant variations between colleges and/or departments that would have an effect upon the implementation of the concept of continuous education.

Therefore:

RECOMMENDATION 2: A study of the factors at Iowa State University that are related to furthering the development of continuous learners including recommendations for implementation is needed.

Once determined that Iowa State University, or any other institution should move ahead on a program of alumni continuing education it is highly relevant that the responsibility for the program be clearly identified. The pattern proposed by the American Alumni Council (1) is that the extension service of a university and the office of alumni affairs be jointly responsible for implementation of alumni continuing education programs. Whenever two separate parts of the university are involved in a program it is highly important that the roles and responsibilities be clearly defined. Iowa State University is no exception. Therefore:

RECOMMENDATION 3: A joint statement of commitment and understanding should be developed by the Office of Alumni Affairs and University Extension at the early stages of the development of an alumni continuing education program.

Iowa State University has begun to help the alumni to see a new and expanding role for the Office of Alumni Affairs. Dr. Robert Crom, Director of Alumni Services, has in a recent Alumnus (6, p. 3) solicited ideas from alumni on how the

Office of Alumni Affairs can better serve the alumni's needs and at the same time proposed some new ways of serving alumni.

RECOMMENDATION 4: If the Office of Alumni Affairs and the Iowa State University Alumni Association embark on a program of alumni continuing education they need to implement a program designed to change the image of alumni affairs.

Based on data from this study it might be concluded that alumni class reunions and alumni club social functions do not serve a need for alumni and that alumni continuing education programs should become the major thrust of the Office of Alumni Affairs. Alumni class reunions and alumni club social functions do still, however, serve a need for some alumni.

Therefore:

RECOMMENDATION 5: The traditional alumni functions should be continued but at the same time educational programs should be added to compliment the traditional programs and then, as more experience is gained, adjust the program to fit the needs of alumni.

With the diversity of interests, occupations and needs of Iowa State University alumni no one program can satisfy the needs of alumni. No one type of program can or should become the mainstay of any alumni continuing education program. Experience at other colleges and universities indicates that a wide variety of alumni programs can be successful.

In today's society it is important to maintain a high degree of flexibility in educational programs. Educational programs must continue to meet the needs of the alumni. Therefore:

RECOMMENDATION 6: A wide variety of exploratory alumni continuing education programs should be developed, implemented and evaluated. The commitment should be to a constantly changing, rather than a static, offering of programs for alumni.

## CHAPTER VI

## SUMMARY

College and university graduates are faced with the critical problem of keeping up to date and expanding their knowledge in both occupational and nonoccupational areas. Alumni continuing education, an important facet within the larger and more encompassing concept of continuing education, has become a vital and significant concern of alumni and college educators.

The objective of this research project was to study factors related to the development and implementation of continuing education programs for Iowa State University alumni. The information provided enables Iowa State University, through the Office of Alumni Affairs, University Extension and other groups, to have research data to use in the development of programs for Iowa State University alumni. Although designed specifically for Iowa State University, the findings in this study do have implications for other colleges and universities that are giving attention to the continuing education of their alumni.

Alumni continuing education, for the purposes of this study, was limited to formal classes, seminars, workshops, educational meetings, institutes, lecture series or self study programs. Activities such as reading, listening to educational radio and TV programs and occasional lectures were not included.

The alumni in this study were men and women who graduated

from Iowa State University or attended Iowa State University and are maintained on the Office of Alumni Affairs list of alumni.

A stratified random sample was drawn from the approximately 20,000 Iowa State University alumni living in Iowa. The sample was limited to alumni who graduated in 1926-65 inclusively and was stratified on both the year in which they graduated and the college in which they earned their first degree.

Since sociological, economic and political factors affecting students tend to be concentrated over a period of years the following eras or period of times were established: 1926-32, 1933-40, 1941-52 and 1953-65. The Colleges of Agriculture, Engineering, Home Economics, Sciences and Humanities and Veterinary Medicine were included in the study.

A systematic sampling technique was used to select approximately 100 alumni for each of the twenty cells (five colleges and four eras). The number of alumni in the 1926-32 and 1933-40 Veterinary Medicine cells was low; consequently, all of the alumni in those cells were used in the sample. A total of 934 alumni were included in the study.

A six page foldout questionnaire was designed to supplement the data available in the Iowa State University Alumni Records System. Data from the questionnaires and the Alumni Central Records System were transferred to data processing cards for analysis. Single classification analysis of variance and Pearson Product Moment correlation statistical techniques



were used to analyze the data.

The specific objectives of the study were to:

1. determine Iowa State University alumni's perception of their obligation, need and commitment to participate in continuing education;
2. ascertain the present level of participation of ISU alumni in continuing education programs;
3. determine factors or variables associated with the expressed needs and interests of alumni in continuing education programs;
4. determine who alumni perceived should assume responsibility for alumni continuing education programs;
5. determine content, type and location of education programs in which alumni prefer to participate.

The null hypotheses tested were as follows:

1. There is no significant difference between the alumni's perception of their obligation, need and commitment to participate in continuing education when compared with categories of selected characteristics of alumni.
2. There is no significant difference between the present level of participation in continuing education programs when compared with categories of selected characteristics of alumni.
3. There is no significant difference between expressed needs and interests in alumni continuing education programs when compared with categories of selected characteristics of alumni.
4. There is no significant difference between alumni's perception of who should assume responsibility for alumni continuing education programs when compared with the categories of selected characteristics of alumni.

**OBLIGATION, NEED AND COMMITMENT:** The variables that are significantly related to alumni's obligation, need and commitment to participate in continuing education are reported in Table 71.

**Table 71. Summary of dependent variables which were significantly related to the independent variables at the .05 level**

Dependent variables	Obligation		Need	
	Occup. educ.	Nonoccup. educ.	Occup. educ.	Nonoccup. educ.
College (1st degree)	X	X	X	X
Era (1st degree)	X		X	X
Sex	X	X	X	
Marital status				
Occupation	X	X	X	X
Salary	X		X	
Highest degree	X		X	
College	X		X	X
Attendance at institutions in addition to ISU				
Student activities participation	X		X	X
Honor societies membership	X			
Community activities participation				
service clubs	X			
chamber of commerce	X			
professional societies	X			
church groups		X		
youth groups	X			
ISU alumni groups	X			
school groups	X			
fraternal organizations				
political groups				
special interest groups		X		
Number of different organizations	X	X	X	X
Number of leadership responsibilities	X	X	X	X
Participation in continuing education	X	X	X	X

Commitment	Needs and Interests			
	Education rather than		Alumni act. meet a need	
	reunions	club functions	reunions	club functions
X	X	X		
X	X	X	X	X
				X
X	X	X	X	X
X	X	X		
X	X	X		
			X	X
X				
X				
X	X	X	X	
X				
X				
X	X		X	X
X				
X			X	X
X	X			
X	X	X		X
X	X	X	X	

Table 71 (Continued).

Dependent variables	Obligation		Need	
	Occup. educ.	Nonoccup. educ.	Occup. educ.	Nonoccup. educ.
Continuing education program topics				
occupational information	X	X	X	X
homemaking information				X
human development	X		X	X
international affairs	X	X		X
community problems	X	X	X	X
preparing for retirement		X		X
recreation, physical fitness			X	
investments, insurance, estate planning	X	X	X	X
arts, crafts, hobbies				
leadership	X	X	X	X
foreign language				
religious training			X	X
Participation in alumni education programs				
	X	X	X	X
Alumni continuing education topics				
occupational information	X	X	X	X
homemaking information				X
human development		X	X	X
international affairs		X		X
community problems		X	X	X
preparing for retirement				X
recreation, physical fitness				
investments, insurance, estate planning	X	X	X	X
arts, crafts, hobbies		X		X
leadership	X	X	X	X
foreign language				



Iowa State University alumni in this study have a definite commitment to continue their education. There is considerable variation in the obligation, need and commitment to participate in continuing education. The alumni in this study, particularly the more recent graduates, indicate they need to continue their education in both occupational and nonoccupational areas.

College of Veterinary Medicine and College of Home Economics alumni placed a higher value on continuing their education and had a higher mean level of expected participation in alumni continuing education programs. The College of Home Economics alumni placed a higher value on nonoccupational continuing education than occupational continuing education.

Alumni from the College of Engineering and the College of Sciences and Humanities consistently placed a lower value on participation in continuing education. There was an indication that they might participate in alumni continuing education programs at a higher rate than they have previously in other continuing education programs. College of Agriculture alumni were not consistently high or low in their obligation, need or commitment to participate in continuing education. There is some evidence that having the education graduates in the College of Agriculture group may in fact have biased the sample toward more participation for continuing education.

The more recent alumni placed a higher value on continuing education. Alumni in the older eras were less likely to have an obligation and a need to participate in continuing education

programs and were less interested in alumni continuing education programs.

**LEVEL OF PARTICIPATION:** Adult education participation studies indicate that adults with a higher level of education participate more frequently in continuing education programs. In this study where level of education was held a constant factor, a number of variables were identified as being significantly related to level of participation.

The following factors were significant at the .05 level: college in which the alumni's first degree at Iowa State University was earned, occupation, highest degree earned, college in which alumni's highest degree was earned, participation in community activities (all except school groups), number of different community activities, number of different leadership responsibilities assumed, topics of 1969 continuing education programs (all except child or human development and foreign language), topics for future alumni continuing education programs (all except community problems and/or action), expected participation in alumni continuing education, and participation in student organization or activities.

The following factors were not significant at the .05 level: era in which alumni received first degree, sex, marital status, salary, attendance at an institution of higher education in addition to Iowa State University and membership in honor societies.

Alumni receiving degrees in Veterinary Medicine had the

highest level of participation in continuing education programs. College of Agriculture and College of Home Economics alumni also had high levels of participation. College of Engineering and College of Sciences and Humanities had low levels of participation. Alumni graduating in the 1941-52 and the 1953-65 era had the highest levels of participation.

Participation in community activities and student organizations and activities was significantly related to participation in continuing education programs. Those involved in both student and adult community activities had higher levels of participation. Alumni in Veterinary Medicine, Education, Home Economics and other professions had high levels of participation.

**NEEDS AND INTERESTS IN CONTINUING EDUCATION:** The alumni have most frequently participated in continuing education programs related to their occupation and indicate strong preference to participate in more such programs. The topics of community problems and/or action and investments and insurance and estate planning were more frequently reported than other topics. Foreign language was the most popular topic.

Alumni class reunions and alumni club social functions do not serve a need for most alumni in this study. For some groups (older alumni and farmers in particular) these typical alumni functions satisfy a need. Educational programs are an acceptable substitute or addition to alumni functions. There is evidence that alumni do not clearly see educational programs as a



function of the Office of Alumni Affairs. Variables significantly related to whether traditional alumni functions meet a need for alumni are reported in Table 71.

#### RESPONSIBILITY FOR ALUMNI CONTINUING EDUCATION PROGRAMS:

Variables significantly related to who should assume responsibility for alumni continuing education programs are reported in Table 72.

It is evident that the alumni expect Iowa State University to make programs available to them. The expectation that the Office of Alumni Affairs should be involved in the program is less decisive. The department in which the alumni was last enrolled is not seen as a highly relevant source of continuing education. Institutions other than Iowa State University are looked to as sources of continuing education programs.

**TYPES OF CONTINUING EDUCATION PROGRAMS:** The types of programs preferred by Iowa State University alumni are a lecture-discussion session with 10-21 people located in their home community. The Iowa State University campus is an acceptable location for continuing education sessions. The programs would be short sessions conducted over a period of time. Husbands and wives should be included if the subject matter is appropriate. Annual sessions are preferred.

A series of recommendations for further research and program implementation grew out of the findings from this research project. Research recommendations included a study leading to

Table 72. Summary of dependent variables which were significantly related to the independent variable of responsibility for alumni continuing education at the .05 level

Dependent variable	ISU	Office of Alumni Affairs	Dept.	Other inst.
College (1st degree)	X		X	
Era (1st degree)	X	X	X	X
Sex		X		
Marital status				
Occupation	X		X	
Salary				
Highest degree	X		X	X
College (highest degree)	X		X	
Participation in continuing education	X	X	X	X
Participation in alumni education programs	X	X	X	X

the refinement of the philosophical and practical basis for the concept of continuing education, a study to determine attitudes related to continuous education, study of the needs and interests of Iowa State University alumni living outside of Iowa, study of the effectiveness of specific continuing education programs, evaluation of alumni class reunions and alumni club programs and a bench mark study for evaluating continuous education programs.

Recommendations related to program implementation at Iowa State University dealt with the ascertainment of the commitment to continuous education, determination of factors related to the development of continuous learners and the identification of roles and responsibilities for alumni continuing education. Also recommended was a program to change the image of alumni affairs and the addition of exploratory educational programs to the traditional alumni events and activities.

This study, designed to identify the needs and interests of Iowa State University alumni in continuing education does provide information on which future programs of alumni continuing education can be developed. At the same time it identifies new areas for further research and study.

## BIBLIOGRAPHY

1. American Alumni Council. Survey of alumni continuing education. Author, Washington, D.C. January 1968.
2. Armstrong, James E. The seven ages of alumni. *Alma Mater* 34, No. 6: 8-9. November 1967.
3. Bear, William Foreest. Matriculation, progression and employment status of agricultural engineering graduates from the Iowa State University of Science and Technology. Unpublished Ph.D. thesis. Library, Iowa State University of Science and Technology, Ames, Iowa. 1963.
4. Christenson, Gordon A. The future of the university. University of Oklahoma Press, Norman, Oklahoma. 1969.
5. Coombs, Philip H. The world education crisis. Oxford University Press, New York, N.Y. 1968.
6. Crom, Robert L. Comment. *The Iowa State Alumnus* 65, No. 2: 3. October 1969.
7. Douglah, Mohammad. Some perspectives on the phenomenon of participation. *Adult Education Journal* 20, No. 2: 88-89. 1970.
8. Eklund, Lowell. The Oakland plan for alumni education. Unpublished mimeographed paper. Oakland University, Rochester, Michigan. ca. 1964.
9. Frost, Joe L. and Hawkes, Glenn R. The disadvantaged child. Houghton Mifflin Company, Boston, Massachusetts. 1966.
10. Johnstone, John W. C. and Rivera, Ramon J. Volunteers for learning. Aldine Publishing Company, Chicago, Illinois. 1965.
11. Knox, Allan. Older people as consumers of education. ED 025 716 ERIC. 1966.
12. Liveright, A. A. The concept of lifelong integrated learning "education permante" and some implications for university adult education. ED 016 899 ERIC. 1966.
13. Liveright, A. A. The uncommon college: the college of continuing education of Metropolis University. ED 018 697 ERIC. 1966.

14. Lowenstein, Duane E. and Lewis, Susan S. A study of components of future participants in adult education programs. ED 018 698 ERIC. 1965.
15. Rhea, Mark B. Present status and opinion of graduates granted Bachelor of Science Degrees since 1932 in agriculture curricula at Iowa State College. Unpublished Ph.D. thesis. Library, Iowa State University of Science and Technology, Ames, Iowa. 1963.
16. Sandford, Nevitt. The commands of change. *Alma Mater* 33, No. 2: 12-14. March 1966.
17. Schroeder, Wayne L. Concerns about adult education. ED 023 982 ERIC. 1968.
18. Shaw, Wilford B. Alumni and adult education. American Association for Adult Education, New York, New York. 1929.
19. Stadtman, Verne. The commands of change. *Alma Mater* 33, No. 2: 15-16. March 1966.
20. UNESCO. Report of the third session international committee for the advancement of adult education. ED 030 034 ERIC. 1965.
21. Whipple, James B and Woditsch, Gary A. Oakland papers, symposium on social change and educational continuity. Center for the Study of Liberal Education for Adults, Brookline, Massachusetts. 1966.

## ACKNOWLEDGEMENTS

"If a man does not keep pace with his companions, perhaps he hears a distant drummer. Let him step to the music he hears, however measured and far away."

Henry David Thoreau

"Some men see things as they are and say why, I dream things as they might be and say WHY NOT?"

Robert F. Kennedy

These statements have been on my desk for the past several years because they express my personal and professional philosophy. At this time, more than ever, they express my feelings.

To those men and women who have helped me to see things as they really are and have challenged me to see them as they might be, I express my grateful thanks. Their thoughts, words and feelings have influenced my graduate program and this dissertation -- some negatively -- most positively. To each I have personally expressed my appreciation.

**Jerry Parsons**  
June, 1970

**APPENDIX A: QUESTIONNAIRE AND REMINDERS**

IOWA STATE UNIVERSITY  
OF SCIENCE AND TECHNOLOGY  
Ames, Iowa 50010

ALUMNI AFFAIRS

February 1, 1970

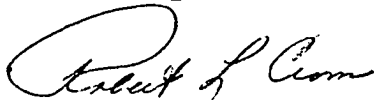
Dear Alumnus of Iowa State:

The value of research as a tool in decision-making has been well demonstrated. Currently, several offices here on campus are concerned with decisions relating to the needs and interests of Iowa State alumni in continuing education. As you can appreciate, those of us who work with Alumni Affairs and those concerned with University Extension are among those most interested.

Thus, when Jerry Parsons, a staff member working on his doctoral degree here on campus, inquired about our willingness to cooperate with him in a systematic study of these needs, we were pleased to do so. You are one of approximately 2,000 alumni living in Iowa randomly selected to receive the enclosed questionnaire. It is relatively short and easy to complete. By taking time to do so you can be of great help to those on campus interested in shaping educational programs which will best meet your needs and interests.

To make a prompt reply easy for you, we have included a self-addressed, postage-paid envelope for the return of your completed questionnaire. Again, we will greatly appreciate your taking time to complete and return this form.

Sincerely,



Robert L. Crom  
Director

RLC/db

**INSTRUCTIONS:**

In answering questions 1 and 2 please report any classes, workshops, seminars, educational meetings, institutes, lecture series, correspondence or self study programs. Activities such as reading, listening to educational radio and TV and occasional lectures should not be included.



# CONTINUING EDUCATION NEEDS AND INTERESTS OF ISU ALUMNI

Name \_\_\_\_\_  
Last First Middle

Address \_\_\_\_\_  
Street/Rural Route City State Zip Code

Circle the college (division) from which you received your first ISU degree  
 Agriculture      Engineering      Home Economics  
 Science & Humanities      Vet. Medicine      Year received \_\_\_\_\_

**1. Check (✓) the topic of all the adult or continuing education programs in which you have participated in 1969.**

- |   |                               |
|---|-------------------------------|
| 01. __ New or refresher information for your occupation | 09. __ Arts, crafts, hobbies  |
| 02. __ Homemaking information                           | 10. __ Leadership             |
| 03. __ Child or human development                       | 11. __ Foreign language       |
| 04. __ World or international affairs                   | 12. __ Religious training     |
| 05. __ Community problems and/or action                 | 13. __ Other (please specify) |
| 06. __ Preparing for retirement                         | _____                         |
| 07. __ Recreation and physical fitness                  |                               |
| 08. __ Investments, insurance, estate planning          |                               |

I have not participated in any adult education programs. If none go on to question 3.

**2. Please indicate the sponsor, number and scope of adult or continuing education programs in which you have participated during 1969.**

In reporting the number of different programs, report a series of meetings as one program, even though the series may have dealt with different topics.

To report the number of hours of training received, report only the amount of time devoted to training. Do not include travel time and meal breaks.

In the last section, check the scope - local, county-wide, etc. - of the sessions you attended.

Sponsor	Number different programs	Total no. hours	Scope				
			Local	County	Multi-county	State	National
01. Extension meetings, workshops and other programs sponsored by ISU _____							
02. Education programs specifically planned for alumni on ISU campus _____							
03. Noncredit programs sponsored by other colleges and universities _____							
04. Area-community college adult education programs _____							
05. High school adult education programs _____							
06. YMCA-YWCA programs _____							
07. Church sponsored programs _____							
08. Programs sponsored by your employer _____							
09. Programs sponsored by professional association or society _____							
10. Programs sponsored by industry (other than your own employer) _____							
11. Other (Please specify) _____							

3. Please indicate your reactions to all statements with a check (✓) in the appropriate circle.

	Strongly agree	Moderately agree	Have no opinion	Moderately disagree	Strongly disagree
a. As a college alumnus I have an obligation to continue my education in relation to my present occupation.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
b. As a college alumnus I have an obligation to be alert and knowledgeable to problems, issues and concerns in areas other than those related to my occupation.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
c. I need to participate in additional educational meetings or classes to help me continue my education in relation to my present occupation.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
d. I need to participate in additional educational meetings or classes to help me to be alert and knowledgeable to problems, issues and concerns in areas other than those related to my occupation.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
e. Iowa State University should provide opportunities for alumni to participate in educational programs.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
f. The ISU Alumni Association should offer opportunities for alumni to participate in educational programs.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
g. I look to the department in which I was last enrolled for continuing education programs.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
h. I look to institutions, agencies or organizations other than ISU for continuing education programs.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
i. I would prefer to attend an educational program on campus rather than a typical class reunion.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
j. I would prefer to attend an educational program rather than participate in an alumni club social function.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
k. Alumni class reunions satisfy a need for me as a college alumnus.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
l. Alumni clubs satisfy a need for me as a college alumnus.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
m. Educational programs that <u>do not</u> give credit toward a college degree are an important way to help me continue my education.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
n. Educational programs that give credit toward a college degree are an important way to help me continue my education.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

4. Please indicate the number of different courses in which you have been enrolled and credits earned during 1969.

	Number different courses	Number credits
a. On and off campus credit courses from ISU	_____	_____
b. On and off campus credit courses from other colleges and universities	_____	_____

5. Check (✓) whether you have been a member, officer or major committee chairman in the following organizations during 1969.

	Member	Officer or major committee chairman
a. Service clubs (Kiwanis, Rotary, etc.) _____	<input type="checkbox"/>	<input type="checkbox"/>
b. Chamber of Commerce, Jaycees _____	<input type="checkbox"/>	<input type="checkbox"/>
c. Professional society or association _____	<input type="checkbox"/>	<input type="checkbox"/>
d. Church groups _____	<input type="checkbox"/>	<input type="checkbox"/>
e. Youth groups (Scouts, Y, etc.) _____	<input type="checkbox"/>	<input type="checkbox"/>
f. ISU Alumni Association _____	<input type="checkbox"/>	<input type="checkbox"/>
g. School groups (PTA, School Board, etc.) _____	<input type="checkbox"/>	<input type="checkbox"/>
h. Fraternal organizations (Elks, Moose, etc.) _____	<input type="checkbox"/>	<input type="checkbox"/>
i. Political groups _____	<input type="checkbox"/>	<input type="checkbox"/>
j. Special interest groups (Study Group, Garden, Federated, Hobby, Recreation) _____	<input type="checkbox"/>	<input type="checkbox"/>

I have not participated in any of the above groups.

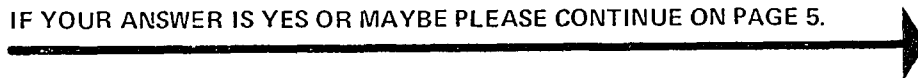
6. Would you participate in a continuing education program planned for ISU Alumni if the topic was of interest to you?

Yes

Maybe

Definitely not

IF YOUR ANSWER IS YES OR MAYBE PLEASE CONTINUE ON PAGE 5.



IF IT IS NO YOU HAVE COMPLETED THE QUESTIONNAIRE.

PLEASE RETURN IT IN THE POSTAGE PAID ENVELOPE.

THANK YOU FOR YOUR COOPERATION.

7. Check (✓) the alumni continuing education program topics in which you would be interested in participating. You may wish to suggest more specific topics in the space provided.

01	New or refresher information for your occupation	
02	Homemaking information	
03	Child or human development	
04	World or international affairs	
05	Community problems and/or action	
06	Preparing for retirement	
07	Recreation and physical fitness	
08	Investments, insurance, estate planning	
09	Arts, crafts and hobbies	
10	Leadership	
11	Foreign language	
12	Others (please specify)	

8. In planning alumni continuing education programs there are many decisions to be made. It would be helpful to know more about the preferences of ISU alumni. Please answer the questions on page 5 as if you were going to attend educational programs on the following topics:

New and Refresher Information for Your Occupation

This program would provide new and refresher information that would be helpful to you in your specific occupation.

Human Development

This program would help you understand new ideas and directions in human growth and development. In addition to dealing with latest research it would have practical ideas for you.

Community Problems - Pollution

This program would discuss pollution, - the problem, it's importance, and solutions.

Please answer all of the questions on the New and Refresher Information Program before answering those for the next programs.

For each question use a (1) to indicate your first choice and a (2) for your second choice.

If an alternative is definitely not acceptable, then place an (X) in the appropriate space.

**A. What type of session do you prefer?**

1. Lecture
2. Discussion
3. Lecture and discussion
4. Laboratory or practical experience
5. Other (please specify)

**B. What size session do you prefer?**

1. 10-20 participants
2. 21-50 participants
3. 51-100 participants
4. Over 100

**C. What type of facilities do you prefer?**

1. ISU campus
2. Another college campus
3. Hotel or motel conference
4. Camp-conference center
5. Community meeting rooms

**D. Where should the session be located?**

1. In your home community
2. In your immediate area (not over 75 miles)
3. Distance is not an important factor for me

**E. What is your preference regarding length of session?**

1. One evening session (2 hours)
2. One evening session per week over a period of several weeks
3. One day session (4-6 hours)
4. One day per week over a period of several weeks
5. Two day weekend (Friday and Saturday)
6. Three day weekend (Friday, Saturday and Sunday)
7. Two or three days during one week
8. Week-long session (Monday through Friday)
9. Other (please specify)

**F. How frequently would you like to participate?**

1. Every five years
2. Every three years
3. Every other year
4. Annually
5. More frequently

**G. For whom would the session be planned?**

1. ISU alumni only
2. College alumni
3. Cross section of people in the community
4. Anyone interested

**H. Should the session be planned to include your husband or wife?  
(Circle Yes or No)**

	New or refresher information for your occupation	Human development	Community problems pollution
<p>Yes No</p>	<p>Yes No</p>	<p>Yes No</p>	<p>Yes No</p>

PLEASE RETURN THE QUESTIONNAIRE IN THE POSTAGE PAID ENVELOPE. THANK YOU FOR YOUR COOPERATION.

## REMINDERS:

Dear Alumnus of Iowa State:

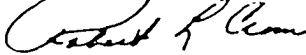
2/19/70

Recently we sent you a questionnaire related to your interests in continuing education. We had a good response from alumni. WE NEED YOUR RESPONSE, TOO.

Would you take a few minutes to complete the questionnaire and return it in the postage paid envelope? If you've misplaced your form, we will be glad to send you another.

We are looking forward to receiving your response. If you have already mailed your form we are grateful. Thank you for your cooperation.

Sincerely,



Robert L. Crom Director, Alumni Affairs

WE MISSED YOUR RESPONSE ----

Recently we sent you a copy of the attached questionnaire. You were selected on a random basis to receive this letter. So that YOUR class and YOUR college is adequately represented in this study, we'd like to have you fill out the questionnaire TODAY. Some have asked if they should fill out the form even though they didn't graduate. The answer is YES. If you have moved from Iowa or are retired, we still need your response.

Thank you for your cooperation.


Robert L. Crom  
Director, Alumni Affairs

P.S. If you have returned the other questionnaire, please disregard this. They may have "crossed paths" in the mail.

## APPENDIX B: STATISTICAL FORMULAS

## STATISTICAL FORMULAS

Formulas used for statistical analysis in this study were:

Single classification analysis of variance:

$$X_{1j} = \mu + \alpha_1 + \varepsilon_{1j}$$

$X_{1j}$  = j th observation of 1 th group (treatment)

$\mu$  = grand mean

$\alpha_1$  = effect due to 1 th group (treatment)

$\varepsilon_{1j}$  = random error corresponding to j th observation of 1th group

$i = 1, 2 \dots t$

$j = 1, 2 \dots n_1$

Assumptions  $\varepsilon_{1j} \sim \text{NID}(0, \sigma^2)$

$$\alpha_1 = 0$$