


1972

# Participation factors and educational needs associated with the Iowa State University alumni continuing education seminars

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PARTICIPATION FACTORS AND EDUCATIONAL NEEDS  
ASSOCIATED WITH THE IOWA STATE UNIVERSITY  
ALUMNI CONTINUING EDUCATION SEMINARS.

Iowa State University, Ph.D., 1972  
Education, adult

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Participation factors and educational needs  
associated with the Iowa State University  
alumni continuing education seminars

by

George Henry Ebert

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

Major: Education (Adult Education)

Approved:

Signature was redacted for privacy.

In Charge of Major Work

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For the Graduate College

Iowa State University  
Ames, Iowa

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## INTRODUCTION

The 20 million alumni from colleges and universities in America are finding the knowledge and skills gained as college students are no longer adequate for a lifetime of work and social responsibility. Increasing numbers of college alumni are participating in continuing education programs to keep informed and learn about new skills and technology. The rapid and almost explosive change occurring everywhere requires a constant review and renewal of an individual's knowledge base. Many professional groups now require their members to participate in continuing education programs as a basis for holding a valid professional license, registration or membership. The American Association of Family Physicians and American Dietetic Association are examples of professional groups requiring such participation. In addition, there is generally an expectation of increased earning power associated with improving professional and vocational competence. Some colleges and universities have devoted a significant portion of their service resources to meet continuing education needs of alumni at the professional and vocational level.

College and university alumni are finding professional and vocational training, important as it is, insufficient in many ways to cope with problems facing contemporary society. Management of a complex social order requires alumni and others to be aware and knowledgeable about present social,

economic and political conditions and future directions in order to strengthen the decision making process. Writing about the consequences of too much professionalization in our time, Alfred North Whitehead (37) has said, "...the rate of progress is such that an individual human being, of ordinary length of life, will be called upon to face novel situations which find no parallel in his past. The fixed person for fixed duties, who in older societies was such a godsend, in the future, will be a public danger."

There is evidence that college and university alumni want to improve and extend knowledge and understanding in subjects and topics other than those directly related to their professional or vocational work. In a recent study, "Needs and Interests of Iowa State University Alumni in Continuing Education," Parsons (33) found 95% of the alumni respondents felt they had an obligation to be knowledgeable and alert to problems, issues and concerns in areas other than those related to present profession or occupation. And, in response to questions concerning need for additional education, 79.1% indicated need for additional occupational training and 79.3% agreed that they needed additional training in non-occupational areas.

Indeed, adults with varying levels of education are finding it necessary to "keep on learning" throughout life. The concept of "Continuing Education", implies that education

is now a lifelong process and that there must be both opportunity and motivation for an individual to increase his knowledge and skills through periodic study as an adult whether he was a high school dropout, a high school graduate, or a person with college training or graduate degree.

#### Need and Purpose of the Study

In a recent survey of its members, the Adult Education Association of the U.S.A. (32), identified and ranked fifteen areas where information about adult education is needed. The two areas identified most frequently and with high priority by AEA members were:

1. Need to know more about those who have taken adult education courses.
2. Reasons why students take courses.

Motivational dispositions and/or reasons influencing participation by Iowa State University alumni in a series of public affairs and contemporary issues seminars will provide some evidence to answer the second question. The literature reports a number of research studies about participation by adults in continuing education programs (6,7,18,35). Most such studies however, are concerned with a wide range of educational experiences (vocational, civic, family life, recreational) and level of educational attainment. Additional research is needed on participation in specific kinds of continuing education programs by relatively homogeneous adult groups as it is more

difficult to identify the motivational dispositions related to adult participation in educational experiences of this type. The time, place and kind of educational experience associated with adults depends on a number of complex variables.

In their study of adult education in America, Johnstone and Rivera (20) concluded that "by far the most persistent finding in our investigation was that formal education attainment plays a highly crucial role in determining whether or not one enters the ranks of adult students". Also, adults prefer certain kinds of learning situations. Blackburn and Douglass, (5) reporting on preferred educational methods by adults involved in adult education programs, state that highly educated people prefer group methods of instruction rather than individual methods which place the potential learner, "on his own". They also prefer indirect association with a teacher.

A majority of the continuing education programs conducted at institutions of higher education are concerned with professional competencies and skills. Programs such as continuing legal education for practicing lawyers, continuing medical education for a host of various specialists in the health fields and continuing education programs for engineers, veterinarians, teachers, are but examples of the many areas of programming by institutions of higher education for specific audiences with specific subject matter content.

There is a growing interest and emphasis on the part of higher education institutions to develop and present continuing education programs dealing with the social order and its many attendant issues. In programs of this nature, learning and behavioral objectives are somewhat different from those which concentrate on improving and aiding one's chosen professional or vocational field. Awareness, along with personal, civic and social responsibility are more often the basis for learning (behavioral) objectives in programs which focus on public and contemporary affairs.

Evidence as to the effectiveness of educational programs concerning professional and vocational growth can be seen in new developments or techniques emanating from the various professional fields such as, improved products, service and quantity. Proof or evidence of accomplishment from programs emphasizing public and contemporary affairs are more hard pressed to quantify behavioral objectives and desired educational outcomes. This is not to say that because evaluation and measurement of outcome is more difficult that less or no emphasis needs to be placed on programs of this nature. Greater effort is needed to find the ways and means to identify appropriate measurement devices for public and contemporary affairs programs.

The alumni seminar series presented by Iowa State University since 1966, is a program that provides sufficient

data and other qualities which could be used to study some aspects of public and contemporary affairs education. The factors contributing to the value of this study include:

1. The alumni seminar series has an extended and established history.
2. Records were available for each meeting including names, addresses of participants and evaluation responses.
3. Main themes or topics for all meetings since 1966, could be classified as some public or contemporary affair, i.e., liberal or "quality of life" education as distinguished from professional or vocational continuing education programs.
4. Participants in all meetings were Iowa State University alumni and their spouses.

This study will provide insight into the significant reasons influencing Iowa State University alumni to participate in public and contemporary affairs educational programs. It is hoped that individuals and groups involved in planning and implementing educational activities for university and college graduates will be made aware of the factors associated with participation in public and contemporary affairs programs, the positive actions taken by participants as a result of participation, and other desired continuing education programs.

Following these leads then, the present study will:

1. Examine a particular type of alumni continuing education program and identify factors associated with

influencing participation.

2. Compare the identified factors with selected alumni characteristics.

3. Determine the relative influence of each participation factor.

4. Compare satisfaction received from participation with the influencing factors.

5. Identify specific actions taken by the participants as a result of participation on one or more of the seminars.

6. Identify the kinds and types of continuing education programs needed by this group of Iowa State University alumni and spouses.

#### The Problem

Since the first program was conducted in 1966, Iowa State University has, yearly, presented a series of continuing education programs for alumni and their spouses (see Appendix A). These programs were designed to bring current public and contemporary affairs before the alumni to improve understanding and awareness, stimulate critical thinking, and share ideas with the faculty.

The titles and offering dates for each of the programs investigated in this study include:

Impact of Modern Science on Our Culture	Nov. 4-5, 1966
Impact of Communications on Our Culture	Nov. 3-4, 1967

New Dimensions of Time	Nov. 8-9, 1968
Man, Environment and Survival	Nov. 7-8, 1969
Man, Environment and Survival II	April 10-11, 1970
Our Educational System in a Changing Social Environment	Nov. 13-14, 1970
Our Educational System in a Changing Social Environment	April 16-17, 1971

The problem, then, becomes one of identifying the relevant factors which determine or influence alumni to participate in such programs. In addition, it is important to measure the degree of satisfaction received from participation and what the learners (alumni) do with the information after formal participation has ended.

This study is based on a specific clientele (Iowa State University alumni and their spouses) and a particular type of program (public and contemporary affairs) therefore, interpretation of the findings must be limited to the audience and program investigated. It cannot be expected that these findings would apply equally to other audiences or similar programs, however they may be of value to others involved in planning, designing and implementing similar kinds of educational programs for college and university alumni.

#### Hypotheses to be Tested

1. Participation in the Iowa State University alumni seminars will be associated with one or more motivational dispositions and/or influencing reasons.



## 2. General form of Ho:

There is no significant difference among groups classified by the selected characteristics of:

- sex
- age
- size of community in which participants reside
- frequency of participation in the seminars
- undergraduate major at Iowa State University
- year of first graduation from Iowa State University

Specific hypotheses were tested using multiple classification analysis of variance testing combinations of main effects (selected characteristics) and interaction. Participation scale questions were scored as to degree of influence associated with participation and degree of satisfaction received from participation.

3. Participants in one or more of the Iowa State University alumni seminars will exhibit differential actions taken as a result of participation.

4. Participants in one or more of the Iowa State University alumni seminars will exhibit differential preference for continuing education experiences.

## Definition of Terms

The terms, adult education and continuing education are consistently used by various writers in the field. Adult education is the older of the two and implies the attainment of an educational level which, for one reason or another, an individual failed to attain at a younger age whereas, continuing education implies that no matter how much education one has, it is not enough. Two definitions follow but, for this study, the term continuing education will be used when referring to the education needs of college and university alumni.

Adult Education - is a process through which persons no longer attending school on a regular, full-time basis undertake activities with the conscious intention to bring about changes in information, knowledge, understanding, skills, appreciation, and attitudes; or to identify and solve personal or community problems.

Continuing Education - any kind of learning or teaching which extends or builds upon previous experience in the same general realm of knowledge and whose specific goals are not intended to terminate all study in that realm.

## REVIEW OF LITERATURE

## Continuing Education

The term, continuing education, shall embrace the idea that education for all people; children, youth, young adults, adults and senior citizens is not terminal at any one stage in life, but is a never ending process throughout life. Indeed, Thorndike (36), has suggested considering compulsory education for adults because, "what one learned in one's teens is inadequate" for a rapidly changing world. Another writer, Cotton (10), is more explicit:

"There are three reasons why some systematic education must be continued through adult years by you, by me, by everyone--no matter how many college degrees he may hold. First, in our childhood and adolescent years in school and colleges we do not yet have adequate motivation for study of many of the most important and economic questions of our day. Second, we do not in our childhood and adolescence yet have the background of life experience to help us to interpret, understand, criticize, evaluate, or apply well such ideas as are given by our teachers and texts. Third, we cannot get ourselves educated by the time we are twentyone for the simple reason that at twentyone we are not yet all there to be educated."

And, more recently, American educational thought incorporates the idea that adults must continue to learn and continuing education is a requirement for managing a rapidly changing culture. Thus, it seems important to consider change in educational needs and requirements throughout the various life stages.

## Alumni Continuing Education

Alumni continuing education is but one segment in this sequence of chain or lifelong educational experiences. That alumni continuing education is an important and growing force at many American universities and colleges is evidenced by programs specifically for alumni. A number of institutions have initiated programs of various sorts in an attempt to respond to the needs of alumni for continuing education. These programs vary widely in specific objectives and goals. Some are designed to accommodate the need for additional training in one's chosen profession or vocation while others are designed to fill the need for one's self development which include subjects on social issues, family life, local, national and international affairs and the humanities. Some of the recent programs in the area of continuing education for alumni include:

Stanford University<sup>1</sup> - the Stanford Summer Alumni College was established in 1966. It is a one week program for Stanford alumni, their spouses and parents of Stanford students. Participants are challenged to "think about" and involve themselves with contemporary topics.

Dartmouth College (26) - has been involved with alumni continuing education since 1916, but a report in 1958 by the Committee on Alumni Relations recommended the establishment of a series of two week workshops for alumni. This recommendation led to the establishment of the Dartmouth Alumni College in 1964. Dartmouth alumni and their wives return to the campus for a twelve day concentrated educational experience to think, study and communicate.

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<sup>1</sup>van Heyst, Della. Stanford Alumni Association, Stanford, California. Private communication. May 19, 1966.

Oakland University (29) - established alumni continuing education as an academic division at the time the university came into existence in 1959. Continuing education became an integral and co-equal part of the university. The following was stated in the proposal that established alumni continuing education: "Universities have a particularly challenging opportunity as well as responsibility in serving the cause (continuing education). They should not only imbue their students with an insatiable curiosity and a commitment to continue learning throughout life, but also provide the long range counsel and the resources which will assist the post graduate in fulfilling lifelong needs for education on as effective and timely basis as possible."

Harvard<sup>1</sup> - the Harvard Summer Alumni College was established in 1971 to "test a growing demand for alumni relations activities that reflect the contemporary intellectual life of the University". A one week program of courses was designed to bring alumni and their wives back to the Harvard community and into the classroom to study with Harvard teachers.

#### Historical Development of Alumni Continuing Education

The year 1916, is generally conceded as marking the beginning for alumni continuing education in America. The first proclamation about specific organization for the education of college alumni was issued by president Ernest Martin Hopkins of Dartmouth College in his inaugural address October 6, 1916. He spoke of the college's responsibility to take the necessary leadership in providing continuing intellectual contact with its alumni when he stated:

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<sup>1</sup>Shultz, Peter D. Harvard University, Cambridge, Massachusetts. Private communication. Feb. 7, 1972.

"If the College (Dartmouth), 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." (34)

From Dr. Hopkin's first public acknowledgement, the history of alumni continuing education has been rather sporadic as a well developed and organized program within the colleges and universities of America. This situation is due to a number of reasons but, four factors seem to predominate as follows:

1. Most colleges and universities have not given alumni continuing education the same priority or financial support as other on-going programs.
2. Most colleges and universities are presently conducting a variety of continuing education programs that attract and involve their own alumni along with graduates from other institutions, but are not specifically identified as alumni continuing education programs. These programs are most often presented by the divisions of extension or continuing education.
3. The alumni offices of most colleges and universities do not have adequate staffing or financial resources to conduct alumni continuing education programs as a separate function.
4. There is a reluctance by institutions to support a program of continuing education for alumni that might duplicate existing extension efforts.

Never-the-less, alumni continuing education in various forms is present at many colleges and universities throughout America.

A report by McMahon (27) traces the development of alumni continuing education from the announcement made at Dartmouth in 1916 to the year 1960. In this report, reference is made to Amherst as having been the first college in which an educational program was developed by the alumni organization. This occurred in 1921 and was a program that incorporated "directed reading courses and group conferences" for the alumni of Amherst.

And, it was in 1925 at the meeting of the Association of Alumni Secretaries (this organization later became the American Alumni Council in 1927) that alumni associations were encouraged to take more direct action in influencing their respective colleges and universities to provide continuing education opportunities for their alumni.

In 1928, a joint conference between the American Association for Adult Education and the American Alumni Council resulted in a recommendation to ascertain and evaluate the alumni continuing education efforts at colleges and universities throughout the country and to stimulate further efforts at other institutions. This investigation included visiting forty-five institutions that had developed some form of adult education programs. It is interesting to note that four of the institutions visited were in Iowa and included; Iowa, Iowa State College, Drake and Grinnell.

The three primary objectives of this study were: (34)

1. To ascertain the degree and kind of interest, both within the institution itself and in the alumni body, in the establishment of a continuing educational relationship between our colleges and universities and their alumni.

2. To study whatever efforts have already been undertaken in this field in different institutions, with a consideration of negative as well as positive results.

3. To acquaint as many university and alumni leaders as possible with the development of this new conception of alumni relations and to suggest experimental efforts wherever they appear to be feasible.

These early efforts to identify and encourage educational programs for alumni did stimulate the reporting of such activities. Most, if not all, of the references to alumni continuing education during the early years were of the "reporting activities" type. The 1936 issue of the Handbook of Adult Education (3) in the United States devotes the major portion of a chapter on alumni education to the reporting of various programs conducted at fifty colleges and universities throughout the United States. The programs described originated almost exclusively with colleges of liberal arts and dealt with subjects related to current events, the arts, and humanities.

In 1928, Daniel L. Grant surveyed the 250 member institutions of the American Alumni Council plus non members (27). He reported 49 institutions with past, present or planned alumni continuing education programs. Twenty five institutions provided reading lists for alumni, 17 conducted short courses,



institutes or clinics and 25 planned to increase existing programs or to initiate such activities. Later surveys in 1956 and 1957 indicated little change in terms of percentages over the participation reported in 1928. It could be postulated that this lack of growth in substantive programming over the years was attributable to non-support and encouragement by college and university administration.

The results of a 1962 survey by the American Alumni Council (13) indicate the significant involvement in continuing education programming by many colleges and universities and the much smaller number of programs conducted by alumni associations. Of those institutions reporting, 1,115 programs of a continuing education nature (not specifically for alumni) were presented as opposed to 161 programs conducted by alumni associations. The report also makes the following statement:

"One of the reasons that the 1962 survey was concerned with institutional programs as well as with those conducted by alumni associations was the fact that many of the institutional programs do offer educational stimulation for alumni. However it must be pointed out that programs sponsored by colleges, universities and secondary schools are usually long-term courses given either for credit or non-credit, such as extension or adult-education programs. Most of the alumni-sponsored programs can hardly be called continuing education per se. The term "education" is hardly applicable to the brief programs sponsored by most alumni associations.....It is the belief of the present Director of Continuing Education that this is about as far as alumni associations can go in their efforts to assist the alumni in continuing their education beyond their diplomas."

In brief then, it would be appropriate to state that early efforts to raise the stature and image of alumni continuing education both within the colleges and universities met with varying degrees of success. Most continuing education programs for alumni were presented as part of other alumni functions such as alumni days, homecoming or at periods immediately preceding or following such activities - there was not much effort to build alumni continuing education as a separate but equal education program at these institutions.

#### Current Developments in Alumni Continuing Education

In recent years, there have been additional developments in Alumni Continuing Education. Institutions of higher education have themselves, come to recognize the importance of continuing education. The Kellogg Foundation had no small part in aiding or helping this idea when it stated (21) - "fortunately....., our institutions of higher education are progressively realizing that they have a growing role to encourage adult learning after the ending of formal education. Offering study at a relatively advanced level, one significant function of education for adults is to develop potential leaders who can guide social change inevitable in the future." And, to further support this philosophy the Kellogg Foundation initiated a program of financial support to colleges and universities to establish continuing education centers. The first of these Kellogg Centers was opened in 1951 at Michigan

State University and it is stated that continuing education became Continuing Education as a result, "The adults of America are finding that they must go back to "school" to consider with the experts topics vital to their jobs, their homes, their communities, their spiritual and inner lives. There is a spreading belief that this country cannot afford to delay applying new discoveries to our complex problems. It is to the application of knowledge that Continuing Education is dedicated." As defined by the Kellogg Foundation, Continuing Education is "continuing study by adults, utilizing periodic learning experiences within a university environment and featuring a specially designed facility." Whereas the Kellogg Foundation views continuing education as taking place "within a university environment" and "featuring a specially designed facility", our previous definition of continuing education is not as restrictive to location or facility. And still another significant endeavor was sponsored by the W. K. Kellogg Foundation. During the period of 1963-1969 financial support was provided to Oakland University for its experimental program "The Oakland Plan for Alumni Education". Writing about the Oakland Plan in Alma Mater, Lowell Eklund (12) states,

"If we conceded that the continuing of one's education is important, the resulting challenge to universities is to find the answers to two questions: first, what should be done by universities to insure that their graduates realize and accept this demanding truth itself; and secondly, what should universities do to assist their products in fulfilling their recognized needs in the endless process of becoming an educated person and responsible citizen" and "the Oakland Plan

calls not for continuing education at the alma mater, but continuing education wherever it may be found and acquired".

As outlined in the 1964-'65 annual report (28) to the Kellogg Foundation, four major program areas concerning alumni continuing education are identified:

1. Comprehension of the immediate post-graduate learning needs of the alumnus.
2. Specific value of the educational counseling function to alumni in the field.
3. The socio-cultural 'validity' of the program's objectives; the fact that the program serves as a vehicle for a fundamentally new approach to meeting a wide variety of educational pressures and concerns produced by an age of radical change.
4. The imperative need for early undergraduate orientation of a specific nature in order to produce a qualitatively distinct kind of learning motivation.

As it has been for much of the history of alumni continuing education, this program (The Oakland Plan) has found survival difficult: Meade<sup>1</sup> wrote in 1969 "...the program (Alumni Education) is somewhat dormant pending a decision as to how we might proceed with the activity", and "...this is a difficult program to implement". He also wrote, "we firmly believe that the concept of Continuing Education for Alumni is a valid one. We further believe that the concept has to be sold to students before they graduate to convince them that their learning has to go on throughout their entire active life."

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<sup>1</sup>Meade, Kenneth. Oakland University, Rochester, Michigan. Private communication. 1969.

In May of 1970, the Notre Dame Conference on Alumni Education (1) considered a proposal to "develop a more systematic approach to the continuing education of the 20 million alumni of our colleges and universities". This conference was attended by selected representatives from the American Alumni Council and National University Extension Association. These representatives studied a program that was designed to stimulate and assist the colleges and universities in American Alumni Council District V in making available a relatively formalized and systematic program of lifelong education in areas of professional and cultural development for the alumni of each participating institution and those of other institutions located in the community served by the programming college or university. Funds for the pilot period were to be supplied by W. K. Kellogg Foundation. No consensus on the proposal was reached by those participating.

#### Studies of Alumni and Alumni Continuing Education

Recently, a few research studies have been reported that are concerned specifically with alumni and alumni continuing education. Ingham (19) reported in his study that alumni who majored in liberal arts or had graduate degrees engaged in educative behavior more than those who majored in pre-professional curriculums or received only bachelors degrees. Educative behavior was measured from a Leisure Activities Index questionnaire which provided information on educative

and leisure satisfactions of autonomy, creativity talent, and leisure complementary to work by 682 alumni. Gessner's (15) study of alumni investigated the perceptions college alumni have of a continuing education regional center (the center, located in Grand Rapids, Mich. is a facility used by Michigan State University, Western Michigan University and the University of Michigan to present various educational programs) and the factors that influence such perceptions. Factors studied included the college experience of alumni, their participation in the regional continuing education center and perceived educational needs. He found that alumni perceptions of intent to participate are related to their undergraduate major and time elapsed since last degree. Also, alumni perceive educational needs for; academic credit programs, home and family living programs and professional growth programs.

Parsons' (33) study of 934 Iowa State University alumni investigated: the alumni's perception of their obligation, need and commitment to participate in continuing education; the level of alumni participation in continuing education programs; the factors associated with the expressed needs and interests in alumni continuing education programs; who alumni perceive should assume responsibility for alumni continuing education programs; and the content, type and location of educational programs in which alumni prefer to participate.

Results of this study indicate that a majority (87% of the respondents) of the alumni feel they have an obligation to

continue their education in both occupational and non-occupational subjects. Also, there is some evidence that alumni are more concerned about non-occupational continuing education than about occupational information. This study also reports that 85% of the respondents feel Iowa State University should provide opportunities for alumni to participate in educational programs.

#### Studies Concerned with Participation in Adult or Continuing Education Activities

Although not specifically concerned with college and university alumni, the following studies of adult participation in continuing education activities are of interest.

In his book, The Inquiring Mind, Cyril O. Houle (18) reports the results from interviewing twenty-two people who were active participants in continuing education programs.

Three student orientations are described:

1. Goal oriented participants - use education as a means of accomplishing clear cut objectives.
2. Activity oriented participants - take part because they find in the circumstances of the learning a meaning which has no necessary connection, and often no connection at all, with the content or the announced purposes of the activity.
3. Learning oriented participants - seek knowledge for its own sake.

Dr. Houle proposes that "generally" people participating in continuing education programs can be identified as having one of these orientations as the primary motivating factor, but,

not at the total exclusion of the other two; the differences are matters of emphasis. And, it should be noted, a particular educational experience may attract representatives from all three orientations.

Following the lead set by Houle's, The Inquiring Mind, Sherman B. Sheffield, also probed educational motivations in, "The Orientations of Adult Continuing Learners" (35). The four hypotheses examined in this study were:

1. Adults who are continuing learners differ in their orientations toward continuing learning.
2. Three orientations of continuing learners are goal orientation, activity orientation, and learning orientation.
3. There is a direct relationship between the extent to which those who attend continuing education conferences participate in adult education and the extent to which they are characterized by one of the three or more orientations.
4. There is no relationship between the type of continuing education conference which the individual attends and his primary orientation towards continuing learning.

Using a list of 58 reasons as to why adults say they participate in adult classes, this study produced evidence regarding five orientations:

1. Learning orientation
2. Sociability orientation
3. Personal goal orientation
4. Societal goal orientation
5. Need fulfillment

These orientations are not greatly different from those reported by Houle but, further refine the goal oriented



motivation into personal goal and societal goal orientation. The activity orientation described by Houle is further refined into sociability orientation and need fulfillment. Boshier, (6) has also contributed to the growing number of studies with his Motivational Orientations of Adult Education Participants: A Factor Analytic Exploration of Houle's Typology. This study reports the results of 233 randomly selected participants enrolled in continuing education courses at Wellington High School Evening Institute, the Department of University Extension of Victoria University and the Wellington Workers' Educational Association. Respondents completed a 48 item Education Participation Scale. Participation is shown to stem from motives more complex than those originally identified by Houle. In part, Boshier states that a person mobilized his defenses to ward off disruptible forces, which cause tension or threat - in the adult education student, boredom, social isolation, an unhappy inter-personal relationship - and in so doing brings into play actions which will resolve balance. Various adult participation factors are presented and discussed in a framework based on growth and deficiency motivation. Deficiency oriented participants seek to remedy their particular deficiency based on reasons different from those motivating growth oriented people.

In addition to these motivational research studies, Harry L. Miller, in his "Participation of Adults in Education" (30)

develops a model showing that participation in adult education programs is dependent on the degree of congruence or conflict between an individual's personal needs and the strength of the social forces in given situations. Level of participation in four major areas of adult education for four major social class levels are diagrammed to show how personal need emphasis combine with class value systems and external social forces. The four major areas of adult education as presented by Miller are:

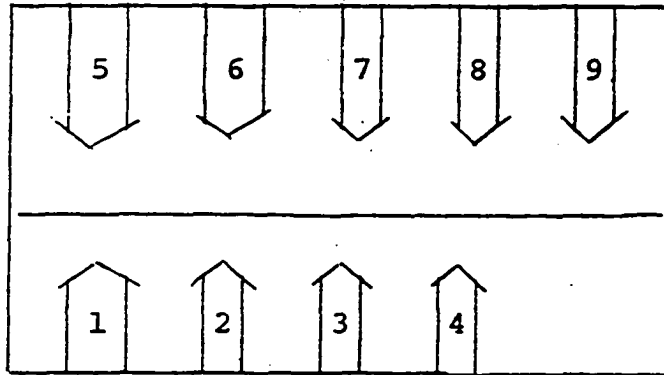
1. Education for vocational competence
2. Education for personal and family competence
3. Education for citizenship competence
4. Education for self-development

The four social class levels are:

1. Lower-lower
2. Working class
3. Lower middle
4. Upper middle

Using these educational categories, Miller diagrams the effect of personal needs and social forces motivating different classes to participate in each of the major areas of adult education. As an example, the diagram for lower-lower class participation in education for vocational competence looks like this:

## Negative Forces



## Positive Forces

Positive forces acting in this situation are:

1. Survival needs
2. Changing technology
3. Safety needs of female culture
4. Governmental attempt to change opportunity structure

However, the negative forces are dominant;

5. Action-excitement orientation of male culture
6. Hostility to education and to middle class object-orientation
7. Relative absence of specific, immediate job opportunities at end of training
8. Limited access through organizational ties
9. Weak family structure

Contrasted with this example, there are no negative forces operating at the lower-middle class level for those seeking education for vocational competence.

## Summary

This review of literature concerning alumni continuing education has examined some of the positive attempts to

establish this phase of education as a recognized responsibility by the colleges and universities.

It has been shown that, generally, continuing education for college graduates has been chiefly oriented to professional and vocational motives with programming and implementation coming from extension divisions rather than specific program units concerned with alumni continuing education per se. However, some institutions have established Alumni Colleges to identify and provide specific continuing education opportunities to their alumni. Most of the program offerings by these units have been concerned with the intellectual and self development phase of education rather than profession or vocational educational experiences. Participation by alumni in continuing education programs of this nature has been encouraging (Harvard University could not accommodate all of the applicants for its first week-long alumni college in 1971).

There seems to be an increasing interest on the part of college and university alumni to again participate in the intellectual life of alma mater. This desire is born out by research evidence (33) that graduates from Iowa State University want and feel an obligation to participate in additional educational experiences in subjects not directly associated with professional or vocational improvement.

Although college and university graduates might be considered a minority group in some respects, their responsibilities and contributions to the welfare and functioning of

society are highly significant. It is important for the alumni to "keep on learning" and correspondingly, for the institutions of higher education to develop the ways and means for accomplishing the task of providing the necessary educational experiences to its alumni.

## METHODS OF PROCEDURE

### Selection of Participants

Records were available for each of the alumni seminars covered by this study. These records were used to record the names and addresses of all participants in each of the seven seminars. From the records, 394 names comprised the initial participant list. Husbands and wives are counted as separate individual participants for this study.

### Development of the Questionnaire

After completion of each alumni seminar, participants were mailed a short questionnaire. One section of the evaluation asked for comments (positive and negative) about the seminar. These written statements provided much insight into the expectations, motivations and satisfaction the alumni expressed concerning each of the seven seminars. In developing the questionnaire much of this information was used. In addition, five faculty members who were involved in developing and planning the seven seminars were asked to each list ten reasons why he or she thought the alumni and spouses participated in the seminars. These items or reasons were then reviewed and grouped into three broad classification areas:

Participation was based on; a desire to learn new information, an interest to increase knowledge that would be used to help others, a desire to be involved in a social activity.

This information along with other participation studies (Houle, Sheffield, Boshier) produced a number of statements about reasons or motivational dispositions as to why adults say they participate in adult learning activities. All of these factors were reviewed and fifty-eight were finally selected as being representative for this study.

Planners of adult education programs are always interested in what the students learned and how they make use of gained information and knowledge. Much information of this nature was available in the written evaluations from each of the alumni seminars. In addition, personal visits with many of the participants revealed additional information about what the participants did with the information gained as a result of participation. A Section of the questionnaire asked respondents to identify positive actions taken as a result of participation in the alumni seminars.

#### Questionnaire

The questionnaire used in this study is the self reporting format and consists of four sections.

Section 1 consists of questions about the respondents general background and about frequency of participation in the seminars.

Section 2 is the participation scale. This section is designed to provide the respondent with a way to describe the degree to which various reasons influenced him to participate

in one or more of the Iowa State University alumni seminars. Each respondent was instructed to score each of fifty-eight statements on a 1 to 99 scale as to degree of influence each statement played as a reason for participation. A low score indicates very little influence and a high score indicates very much influence with a score of 50 indicating moderate influence. Also, the respondents were instructed to score each of the fifty-eight statements a second time as to degree of satisfaction received from participation. A low score indicates very dissatisfied, a high score indicates very satisfied and a score of 50 indicating moderate satisfaction.

Section 3 consists of a list of possible actions each participant might have taken as a result of participation in the seminars. Each respondent was instructed to indicate if an action was taken and to check the degree of value the seminar was in contributing to this action.

Section 4 is designed to identify the kinds or types of educational experiences needs by the alumni participants taking part in this study. Each respondent was asked to identify needs in both non-credit and academic credit courses.

#### Collection of the Data

A letter from Mr. Don Gustofson, Director of the Iowa State University Alumni Association explaining the purposes of the study along with a questionnaire and postage paid return envelope was mailed to each individual who had participated in



one or more alumni seminar (See Appendix B for sample of questionnaire and letter).

Each questionnaire was numbered so that a follow-up reminder could be mailed only to the slow responding individuals. The initial letter and two reminder letters produced a 75.3% response. Inaccuracies in attendance records and deaths reduced the possible 394 responses to 381. Of the 381 potential respondents, 287 usable questionnaires comprise this study. This number (287) represents a 75.3% response and was considered satisfactory for this study.

The following tabulation indicates the number of respondents who participated in one or more of the seminars.

Number responding

163	individuals participated in one seminar
61	individuals participated in two seminars
31	individuals participated in three seminars
28	individuals participated in four seminars
4	individuals participated in five seminars

163 respondents participated in one seminar

124 respondents participated in two or more seminars.

Treatment of the Data

The data from each respondent were coded and recorded on computer cards. Frequency counts were made on the selected characteristics of the alumni. Due to the disparity of response in various categories, the data were grouped as follows for further analysis:

<u>Sex</u>	<u>Frequency</u>
Men	143
Women	<u>144</u>
	287
 <u>Age</u>	
45 and under	127
over 46	<u>160</u>
	287
 <u>Educational Level</u>	
High school graduate but less than college graduate	37
College Graduate	136
College graduate plus graduate courses	47
Masters Degree and Higher	<u>67</u>
	287
 <u>Size of Community</u>	
Under 5,000	89
5,000 to 30,000	74
over 30,000	<u>124</u>
	287
 <u>Number of Alumni Seminars Attended</u>	
One seminar only	163
Two Seminars	61
Three or more Seminars	<u>63</u>
	287

Undergraduate Major at Iowa State University

Agriculture	67
Education	5 <sup>1</sup>
Engineering	39
Home Economics	85
Sciences and Humanities	30
Veterinary Medicine	9
	<u>235<sup>2</sup></u>

Year of First Graduation From Iowa State University

Year of first graduation from Iowa State University ranged from 1925 to 1970 and has been grouped as follows:

1925 to 1939	37
1940 to 1945	44
1946 to 1951	70
1952 to 1970	67
	<u>218<sup>3</sup></u>

The scores for each respondent from Section II of the questionnaire (Participation Scale) were transformed (adjusted) according to the technique presented by Liu (24). Scores at the extreme ends of the 1 to 99 scale are weighted more heavily than scores toward the middle of the scale. The original

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<sup>1</sup>Education was not established as a separate college until 1968.

<sup>2</sup>Does not add to 287 as not all respondents graduated or attended Iowa State University.

<sup>3</sup>Does not add to 287 as not all respondents graduated from Iowa State University.

responses (numerical values from 1 to 99) were non-linearly transformed. The adjusted score is a better estimation of the respondent's true position on a particular influence or satisfaction.

The transformed data from Section II were subjected to a correlation matrix program and then factor analyzed using the Apteryx factor analysis program and maximum likelihood method of analysis. Following this analysis which produced six identifiable motivating factors, the selected alumni characteristics were tested against these factors. Specific hypotheses were tested using multiple classification analysis of variance testing combinations of main effects (selected characteristics) and interaction. Participation scale questions were scored as the degree of influence associated with participation and degree of satisfaction received from participation. The results of tests are reported in the chapter on findings.

## FINDINGS

Iowa State University has presented a series of nine public and contemporary affairs seminars for Iowa State University alumni and their spouses. This study examines seven of these seminars with respect to factors associated with participation, actions taken by participants as a result of participation and identifies educational needs of the alumni in this study.

A self reporting questionnaire from 287 Iowa State University alumni and spouses provided the data for this study (Appendix B). Respondents scored fifty-eight statements as to degree of influence each played as a reason for participation. An interval scale from 1 to 99 was presented and respondents were instructed to indicate strength of belief about each statement by writing a number between 1 and 99, with 1 representing very little influence and 99 exerting a strong influence. This series of responses is referred to as Scale 1 scores (reasons for participation). Respondents were also instructed to score the fifty-eight statements a second time as to degree of satisfaction received from participation in the seminars. An interval scale similar to Scale 1 was presented. This series of responses is referred to as Scale 2 scores (satisfaction received).

Results of the analysis of data from the Seminar Participation Scale produced six distinct factors associated

with participation in the seminars. The six identified factors were tested using multiple classification analysis of variance with selected characteristics of the respondents.

#### Analysis of Participation Scale

The first hypothesis to be tested was: Participation in the Iowa State University alumni seminars will be associated with one or more identified motivational dispositions and/or influencing reasons.

The transformed individual scores on Scale 1 and Scale 2 of the questionnaire from the 287 respondents were correlated in a 116 item matrix. The intercorrelations from this matrix for the fifty-eight statements from Scale 1 (reasons for participation) were subjected to the Apteryx factor analysis program using the maximum likelihood method of analysis. This program yielded six factors. Appendix C, shows the rotated factor loading matrix for the fifty-eight statements from Scale 1 and the six factor program. Appendix D, shows the correlation coefficients for alumni responses to each of the fifty-eight statements from Scale 1 and Scale 2. Tables 1 thru 6, show questionnaire statements and factor loadings for each of the six identified factors. The statements in each factor are ranked in decreasing factor loading order.

Table 1. Factor loadings for questionnaire statements associated with Factor 1

Questionnaire item number	Questionnaire statements	Factor loading
57	find intellectual enrichment and mental stimulation	.77
44	desire to learn and to know	.76
36	engage in the discussion of ideas and opinions	.75
33	enjoy the satisfaction that comes from learning	.72
41	it is good to be challenged to think about issues	.68
8	engage in the discussion of ideas and opinions	.68
9	hear ideas from others	.64
23	pursue a path of intellectual curiosity	.61
52	satisfy a deep curiosity about life and ideas	.59
13	to satisfy an inquiring mind	.59
54	introduce me to new ideas which I can further explore on my own	.58
6	probe topics of significance	.55
1	engage myself in mental stimulation	.55
40	broaden my outlook	.50
25	share concerns and attitudes with others	.47
31	curiosity about seminar topic(s)	.43
51	discuss social problems with which we must learn to live	.47

Table 2. Factor loadings for questionnaire statements associated with Factor 2

Questionnaire item number	Questionnaire statements	Factor loading
45	seek relief from boredom	.76
55	help overcome the frustrations of day to day living	.71
49	to gain insight into myself and my personal problems	.64
24	gain greater acceptance by others	.63
42	escape the intellectual narrowness of my community	.60
29	escape the intellectual narrowness of my job or of being a housewife	.59
48	need to be "forced" into important areas of public concern	.57
38	talk with people who have more intellectual interests than my usual "social" friends	.46
37	improve my ability to analyze and criticize arguments	.42

Table 3. Factor loadings for questionnaire statements associated with Factor 3

Questionnaire item number	Questionnaire statements	Factor loading
32	improve my knowledge to better serve my community	.83
20	prepare for service in the community	.82
50	gain a better intellectual background for my participation in community organizations and community affairs	.66
3	acquire knowledge that will help me be a more effective citizen	.54
12	seek to contribute to the "common good"	.53
43	find solutions to contemporary social problems	.48



Table 4. Factor loadings for questionnaire statements associated with Factor 4

Questionnaire item number	Questionnaire statements	Factor loading
53	become acquainted with congenial people	.70
2	to be with friends and other alums	.67
5	make new friends	.67
58	fulfill a need for personal associations and friendships	.63
7	renew pride in my university	.62
27	it is always good to get back to ISU	.55
10	have a good time	.54
35	associate with others having similar interests	.53
15	enjoy socially oriented learning activities	.45
4	establish intellectual contact with ISU	.41

Table 5. Factor loadings for questionnaire statements associated with Factor 5

Questionnaire item number	Questionnaire statements	Factor loading
17	supplement a narrow previous education	.74
39	supplement an unduly narrow college training	.64

Table 6. Factor loadings for questionnaire statements associated with Factor 6

Questionnaire item number	Questionnaire statements	Factor loading
22	share a common educational experience with my spouse	.63
28	develop a common interest with my spouse	.52

Of the fifty eight "reasons" analyzed, forty-six are accounted for in the six factors. Only statements with a factor loading of .41 or higher were considered for entry to a cluster except for cases where two or more statements had similar factor loadings. This was the case for statements 11, 16, 19, 21, 34, 47 and 56. In these cases, it could not be determined with any degree of certainty to which factor the statement should be assigned.

The twelve statements not included in one of the six factors were:

<u>Item Number</u>	<u>Questionnaire statements</u>
11	meet with respected faculty
14	participate in a forced reading program
16	exchange ideas and information with other alums
18	become more aware of social problems
19	keep abreast with present day thought
21	to study for its own sake
26	involve myself in personal research
30	get a chance to express ideas I had been thinking and reading about
34	satisfy a desire to be active
46	feel a need for more education
47	learn about faculty ideas and opinions
56	exchange ideas with ISU faculty

### Interpretation of Factors Yielded by Factor Analysis

The 58 statements of the questionnaire listed possible reasons for participation in one or more of the alumni seminars. Respondents were asked to score each statement as to degree of influence the statement played as a reason for participation. The previous section described how these scores were factor analyzed to produce the six factors. Each factor is composed of a cluster of related statements (variables) to be interpreted.

Factor 1 - The variables in this factor have a common thread built around the idea of "intellectual stimulation". This idea is expressed in a number of ways such as; intellectual enrichment, desire to learn, satisfy an inquiring mind and satisfaction that comes from learning. Participation in the seminars by alumni was strongly influenced by this factor and it is interpreted as, A Desire to be Intellectually Curious.

Factor 2 - A core idea that is common to this set of nine variables reflects "involvement" in intellectual pursuits as an "escape" from other situations as a motivating influence for alumni participation. Such statements as; "seek relief from boredom"; "escape the intellectual narrowness of my community" and "help overcome the frustrations of day to day living", contribute to this central idea. This factor is interpreted as, A Desire to Escape from Boredom Through Intellectual Pursuits.

Factor 3 - The six variables in this cluster reflect a concern to improve one's knowledge base in order to better serve the community. Accordingly, this factor is interpreted as, A Desire to Serve Others Through Intellectual Pursuits.

Factor 4 - The influence expressed by this set of ten variables has both a social and nostalgic element. Participation influence stems from a desire to be "re-united" with Iowa State University and a desire to be socially involved with other Iowa State alumni. This factor then, is interpreted as, A Desire to Enjoy Congenial People and the University.

Factor 5 - Two statements comprise the cluster for this factor. Both statements reflect the idea of a narrow education and will be described as, A Desire to Broaden a Narrow Education.

Factor 6 - This is another cluster composed of two statements, both of which, exhibit an influence to share a common educational experience with spouse. Accordingly, this factor is interpreted as, A Desire to Share Intellectually with Spouse.

Based on this analysis, participation in one or more of the alumni seminars was influenced by at least six identifiable reasons or motivational dispositions thus, giving credence to the hypothesis: Participation in the Iowa State University alumni seminars will be associated with one or more identified motivational dispositions and/or influencing reasons.

Factor 1 (A Desire to be Intellectually Curious) was the strongest influence and accounted for over 15% of the variance. A total of 50% of the variance is removed by all six factors. Or, stating this result another way, in 50% of the cases, participation in one or more of alumni seminars can be attributed to one or more of the six identified factors. Table 7 shows the percent of variance removed by each factor.

Table 7. Percent of variance removed by each of six factors

Factor	Percent of total variance removed
1	15.82028
2	10.39905
3	8.13081
4	9.93695
5	2.42578
6	3.34523

Although twelve questionnaire statements were not assigned to any of the six identified factors, it is interesting to note that statement 19, "keep abreast with present day thought" has an overall mean of 77 (Table 14), as an influencing reason for participation thus, giving further support to the fact that intellectual curiosity on the part of the alumni, was an over-riding reason or influence to participation.

Also, the following statements have overall means over 50, which provides strength to the "quest for knowledge" motivation:

Statement No.	Statement	Overall Mean
11	meet with respected faculty	55
47	learn about faculty ideas and opinions	58
56	exchange ideas with ISU faculty	53

#### Participation Scale Mean Scores

A mean score, based on 287 respondents, was calculated for each of the 58 statements comprising the Participation Scale. One set of mean scores was computed for response to Scale 1 (reasons for participation) scores and a second set for Scale 2 (satisfaction received from participation) scores. Tables 8 thru 14, show the overall means for scores from Scale 1 and Scale 2 for each of the factor statements plus statements not assigned to any factor. The means are ranked in decreasing order for Scale 1. A complete list of questionnaire statements and respective means appear in Appendix F.

The mean scores for statements in Factor 1, are considerably higher than the mean scores for any of the remaining five factors indicating that participation in the alumni seminars was strongly influenced by, A Desire to be Intellectually Curious. And, although represented by only two items, Factor 6, A Desire to Share Intellectually with Spouse exerted

Table 8. Factor 1 - overall means (Scale 1 and Scale 2) for questionnaire statements

Questionnaire item number	Questionnaire statements	Overall mean Scale 1	Overall mean Scale 2
6	probe topics of significance	82	80
8	engage in the discussion of ideas and opinions	80	81
1	engage myself in mental stimulation	80	78
9	hear ideas from others	79	80
57	find intellectual enrichment and mental stimulation	77	79
41	it is good to be challenged to think about issues	75	79
44	desire to learn and to know	75	74
36	engage in the discussion of ideas and opinions	74	77
13	to satisfy an inquiring mind	71	77
40	broaden my outlook	70	76
52	satisfy a deep curiosity about life and ideas	69	75
33	enjoy the satisfaction that comes from learning	68	74
23	pursue a path of intellectual curiosity	66	70
25	share concern and attitudes with others	64	69
31	curiosity about the seminar topic(s)	61	67
51	discuss social problems with which we must learn to live	60	64
54	introduce me to new ideas which I can further explore on my own	59	67

Table 9. Factor 2 - overall means (Scale 1 and Scale 2) for questionnaire statements

Questionnaire item number	Questionnaire statements	Overall mean Scale 1	Overall mean Scale 2
38	talk with people who have more intellectual interests than my usual "social" friends	53	63
37	improve my ability to analyze and criticize arguments	43	54
29	escape the intellectual narrowness of my job or of being a housewife	40	60
42	escape the intellectual narrowness of my community	31	50
48	need to be "forced" into important areas of public concern	28	48
49	to gain insight into myself and my personal problems	22	35
55	help overcome the frustrations of day to day living	20	37
24	gain greater acceptance by others	17	32
45	seek relief from boredom	16	44

a strong degree of influence as a reason for participation.

Following these two influences, the respondents expressed fairly strong motivational dispositions to acquire additional knowledge in order to serve others and the community. The means ranged from 72 to 47 to statements in Factor 3, A Desire to Serve Others Through Intellectual Pursuits.



Table 10. Factor 3 - overall means (Scale 1 and Scale 2) for questionnaire statements

Questionnaire item number	Questionnaire statement	Overall mean Scale 1	Overall mean Scale 2
3	acquire knowledge that will help me be a more effective citizen	72	70
43	find solutions to contemporary social problems	57	54
12	seek to contribute to the "common good"	52	54
50	gain a better intellectual background for my participation in community organizations and community affairs	50	60
32	improve my knowledge to better serve my community	49	59
20	prepare for service in the community	47	55

An examination of the statements in Factor 4, A Desire to Enjoy Congenial People and the University, reveal these items were not major influences to participation but, were scored much higher by the respondents as to degree of satisfaction received from participation.

The same analysis is evident in Factor 2, A Desire to Escape from Boredom Through Intellectual Pursuits and Factor 5, A Desire to Broaden a Narrow Education. Respondents mean scores to statements in Factor 2, indicate that participation was not significantly influenced by these items. The mean

Table 11. Factor 4 - overall means (Scale 1 and Scale 2) for questionnaire statements

Questionnaire item number	Questionnaire statement	Overall mean Scale 1	Overall mean Scale 2
4	establish intellectual contact with Iowa State University	61	69
27	it is always good to get back to ISU	58	73
35	associate with others having similar interests	58	69
15	enjoy socially oriented learning activities	49	65
2	to be with friends and other alums	43	63
53	become acquainted with congenial people	40	63
10	have a good time	38	68
5	make new friends	38	54
7	renew pride in my university	37	62
58	fulfill a need for personal associations and friendships	30	50

Table 12. Factor 5 - overall means (Scale 1 and Scale 2) for questionnaire statements

Questionnaire item number	Questionnaire statement	Overall mean Scale 1	Overall mean Scale 2
17	supplement a narrow previous education	27	47
39	supplement an unduly narrow college training	23	43

Table 13. Factor 6 - overall means (Scale 1 and Scale 2) for questionnaire statements

Questionnaire item number	Questionnaire statement	Overall mean Scale 1	Overall mean Scale 2
22	share a common educational experience with my spouse	75	79
28	develop a common interest with my spouse	63	73

Table 14. Overall mean scores (Scale 1 and Scale 2) for statements not included in Factors 1 thru 6

Questionnaire item number	Questionnaire statement	Overall mean Scale 1	Overall mean Scale 2
19	keep abreast with present day thought	77	78
16	exchange ideas and information with other alums	63	72
47	learn about faculty ideas and opinions	58	64
18	become more aware of social problems	56	69
11	meet with respected faculty	55	71
46	feel a need for more education	55	62
56	exchange ideas with ISU faculty	53	61
14	participate in a forced reading program	42	56
30	get a chance to express ideas I have been thinking and reading about	41	58
34	satisfy a desire to be active	40	54
26	involve myself in personal research	39	51
21	to study for its own sake	37	50

scores to statements in Factor 5 also indicate a low priority rating as reasons for participation. The mean scores for satisfaction are considerably higher for these statements in Factor 2 and Factor 5 indicating the respondents received a greater degree of satisfaction than might have been expected.

To test the degree of relationship between scores from Scale 1 and Scale 2 of the Participation Scale, the adjusted means (transformed) were plotted. For an absolute relationship between each pair of scores, all plotted points would lie along a 45 degree line.

Figures 1 thru 5 show the plotted adjusted means for each score on Scale 1 and Scale 2 for each statement in Factor's 1 thru 6. Figure 6 shows the plotted adjusted means for each score on Scale 1 and Scale 2 for all statements not included in Factor's 1 thru 6. Appendix E is a tabulation of adjusted means from Scale 1 and Scale 2 and direction of mean magnitude is also indicated.

An examination of Figures 1 thru 6 reveal a strong relationship between mean scores from Scale 1 and Scale 2. Although points in most cases lie above the 45 degree line, (higher mean scores for satisfaction over mean scores for influence) and spread and distribution pattern indicate the scores from Scale 1 and Scale 2 are highly correlated.

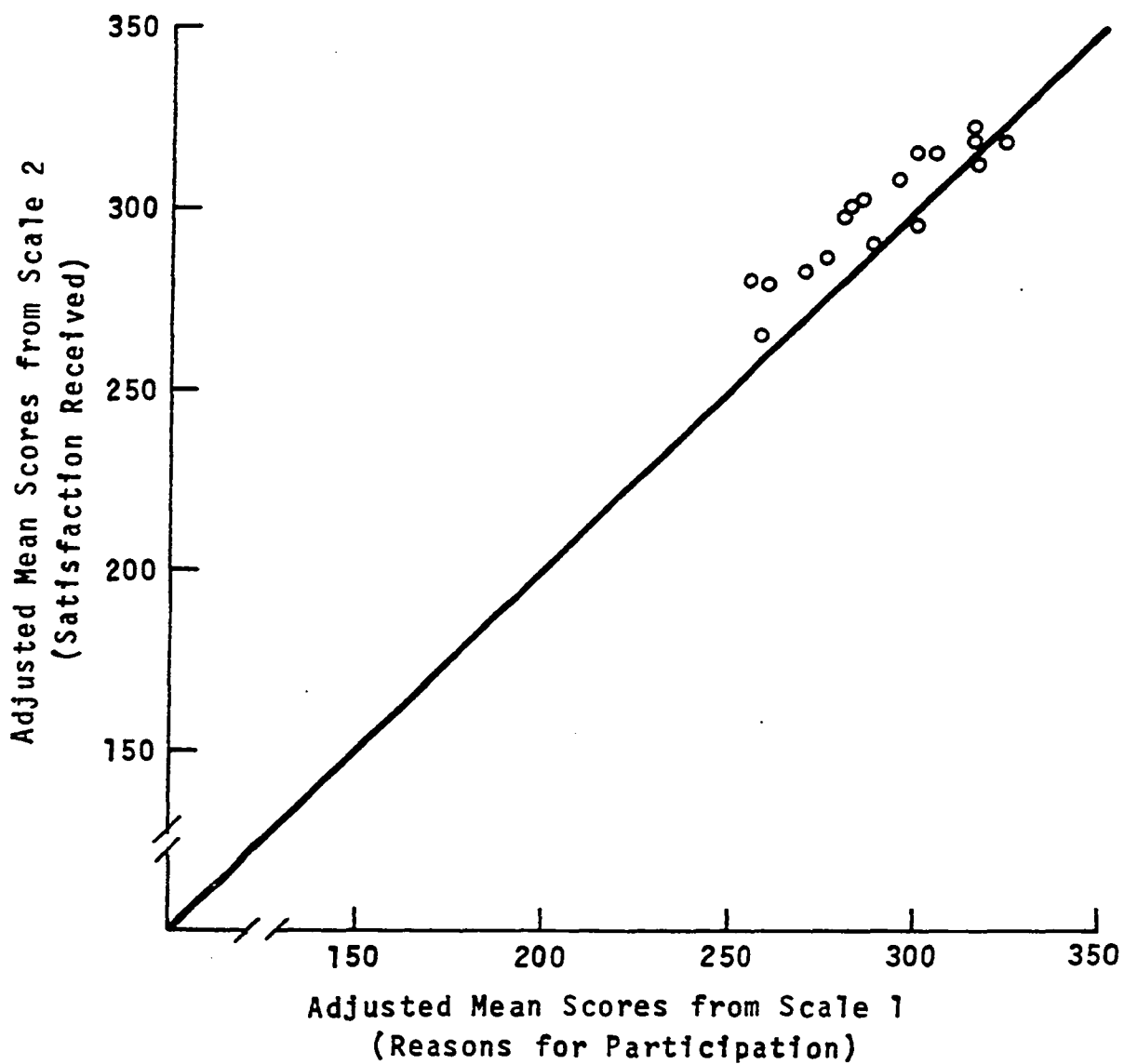


Figure 1. Relationship of adjusted means from Scale 1 and Scale 2 of the participation scale for statements in Factor 1

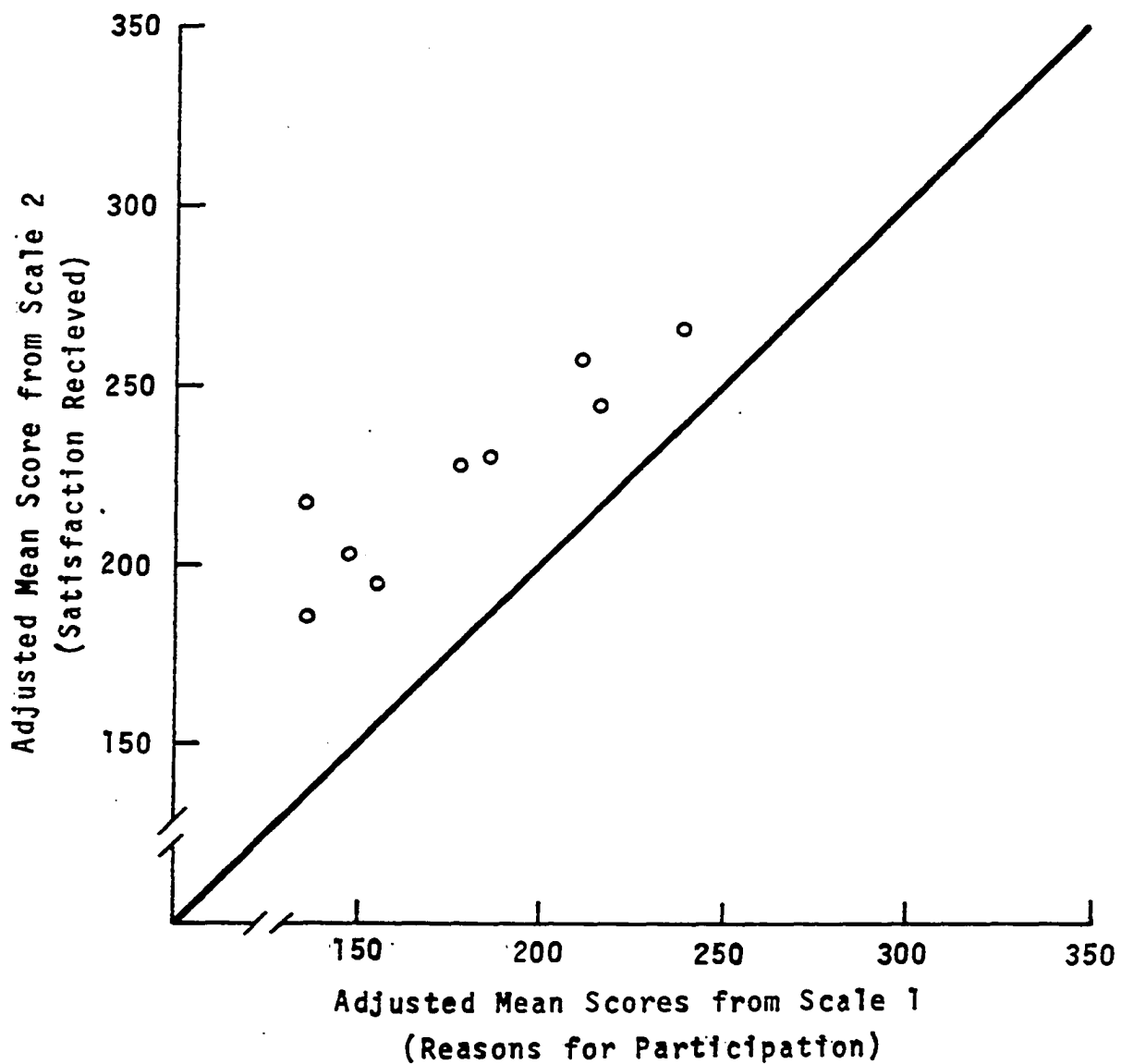


Figure 2. Relationship of adjusted means from Scale 1 and Scale 2 of the participation scale for statements in Factor 2

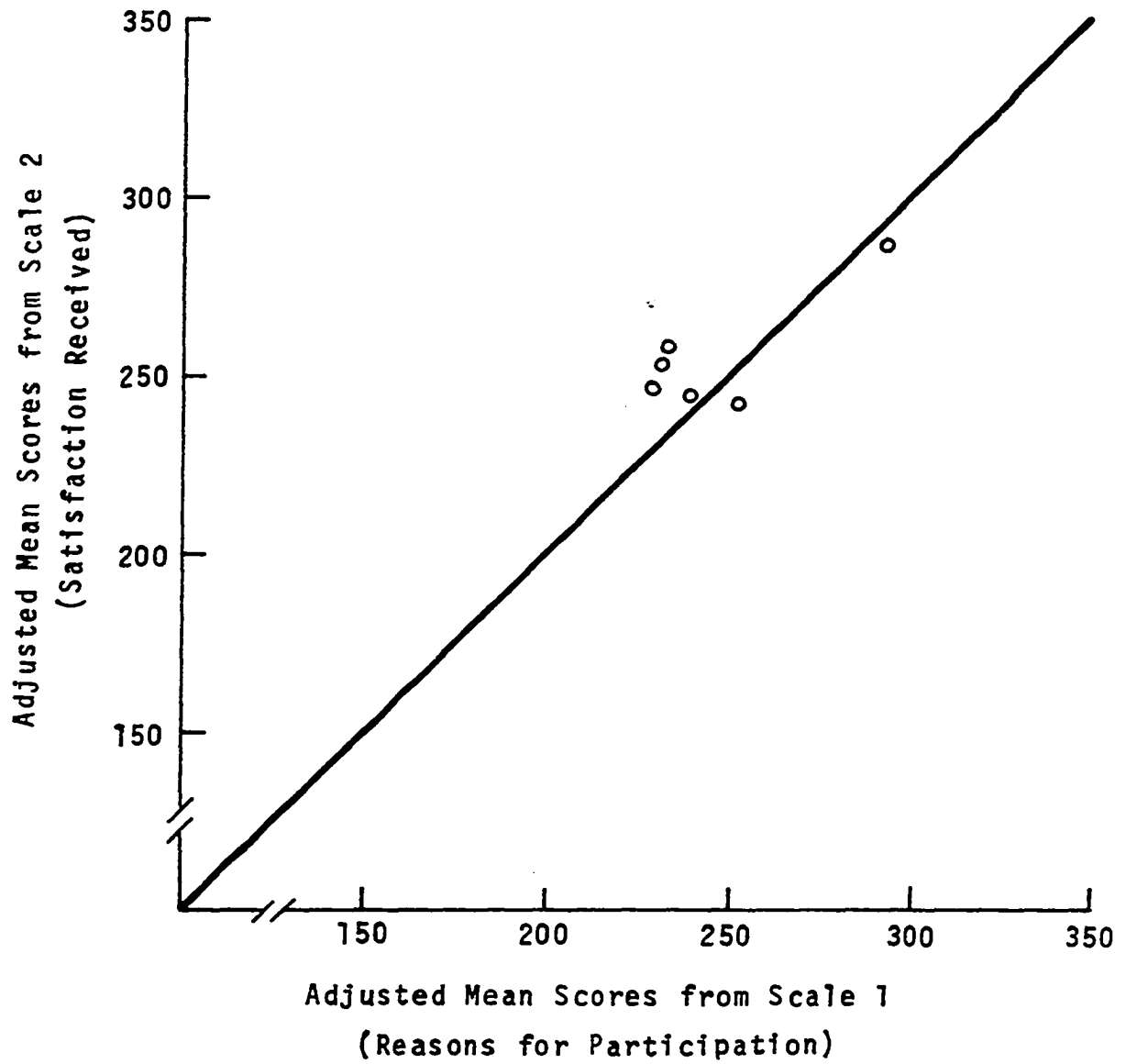


Figure 3. Relationship of adjusted means from Scale 1 and Scale 2 of the participation scale for statements in Factor 3

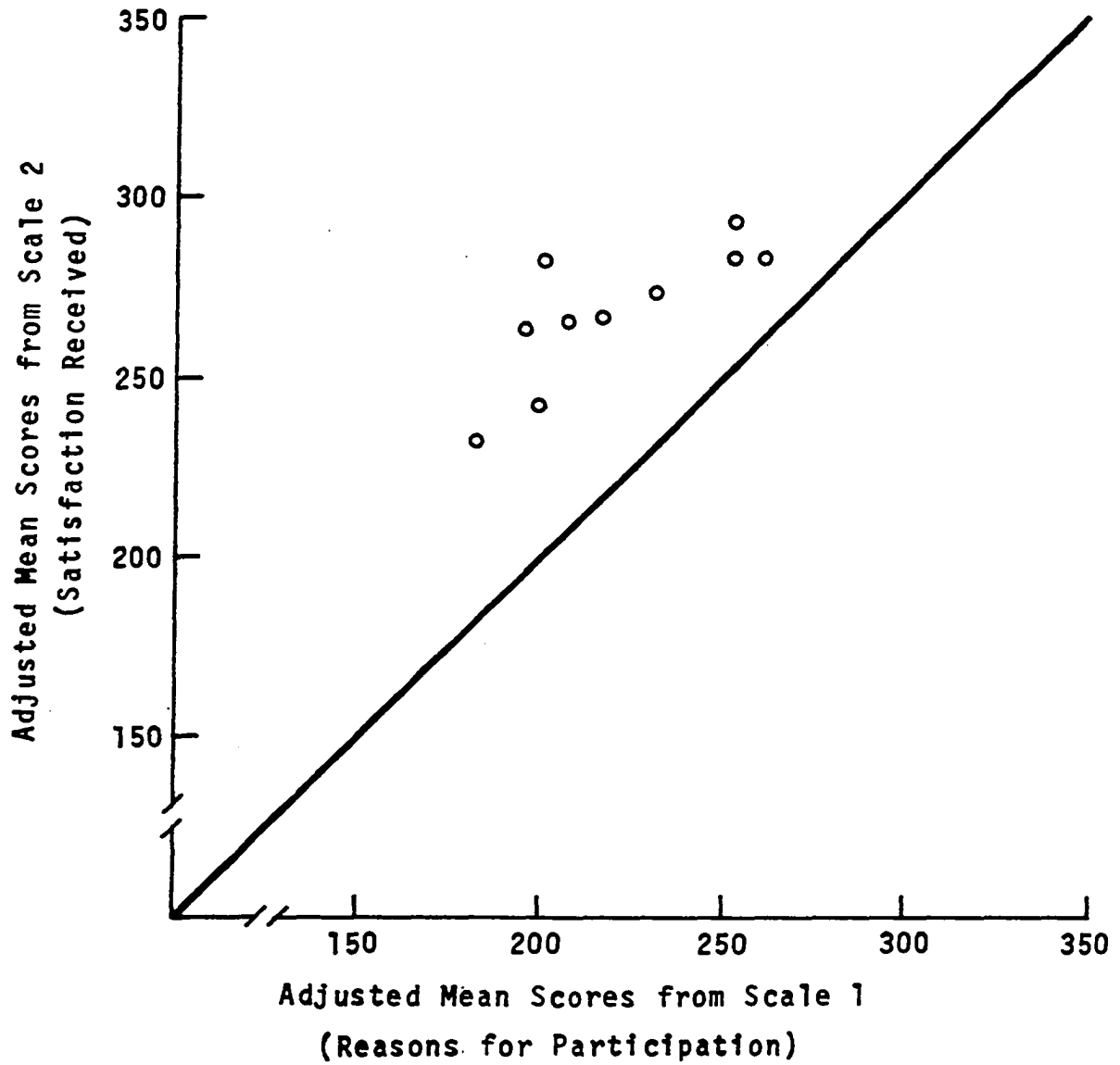


Figure 4. Relationship of adjusted means from Scale 1 and Scale 2 of the participation Scale for statements in Factor 4



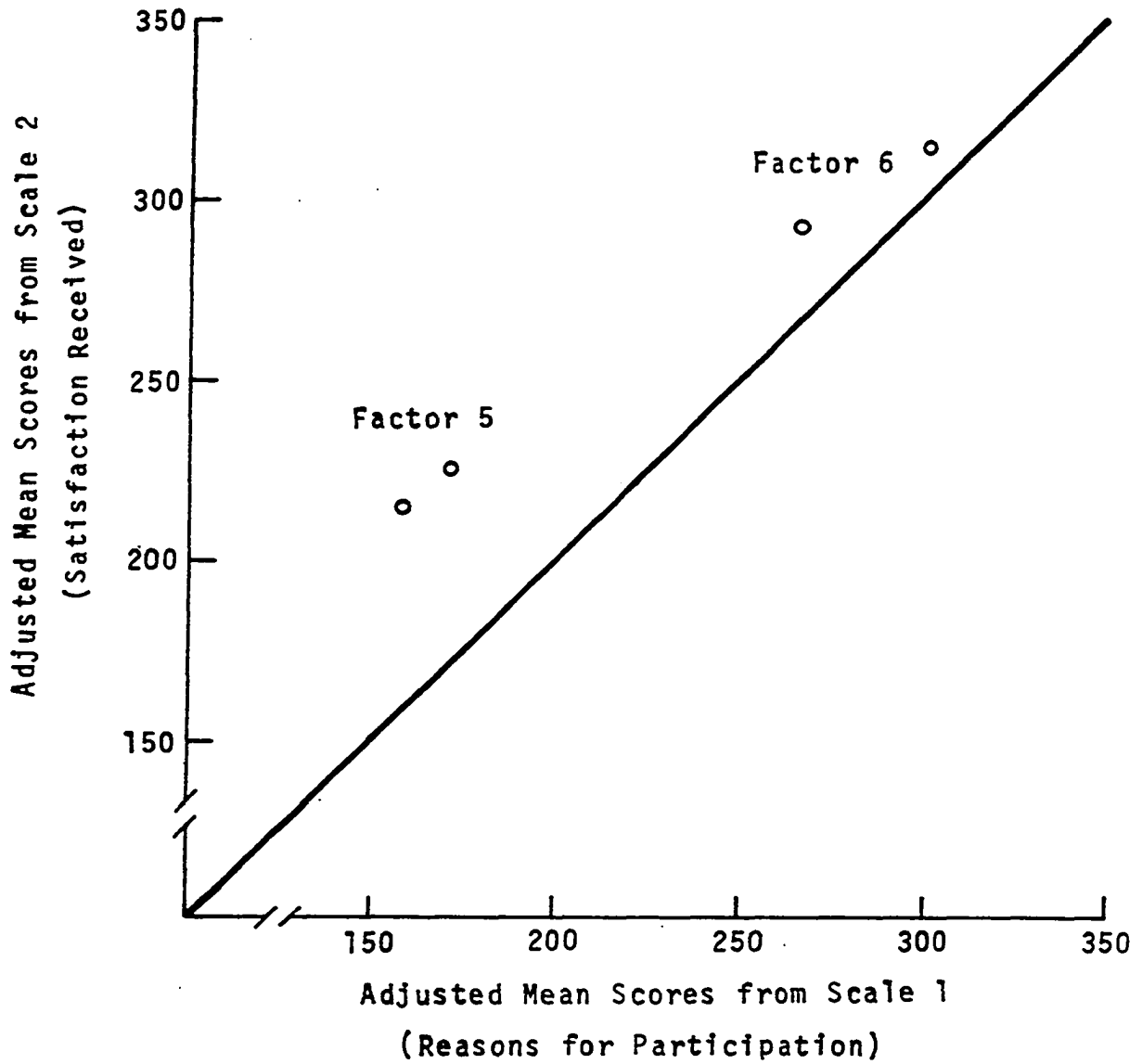


Figure 5. Relationship of adjusted means from Scale 1 and Scale 2 of the participation scale for statements in Factor 5 and Factor 6

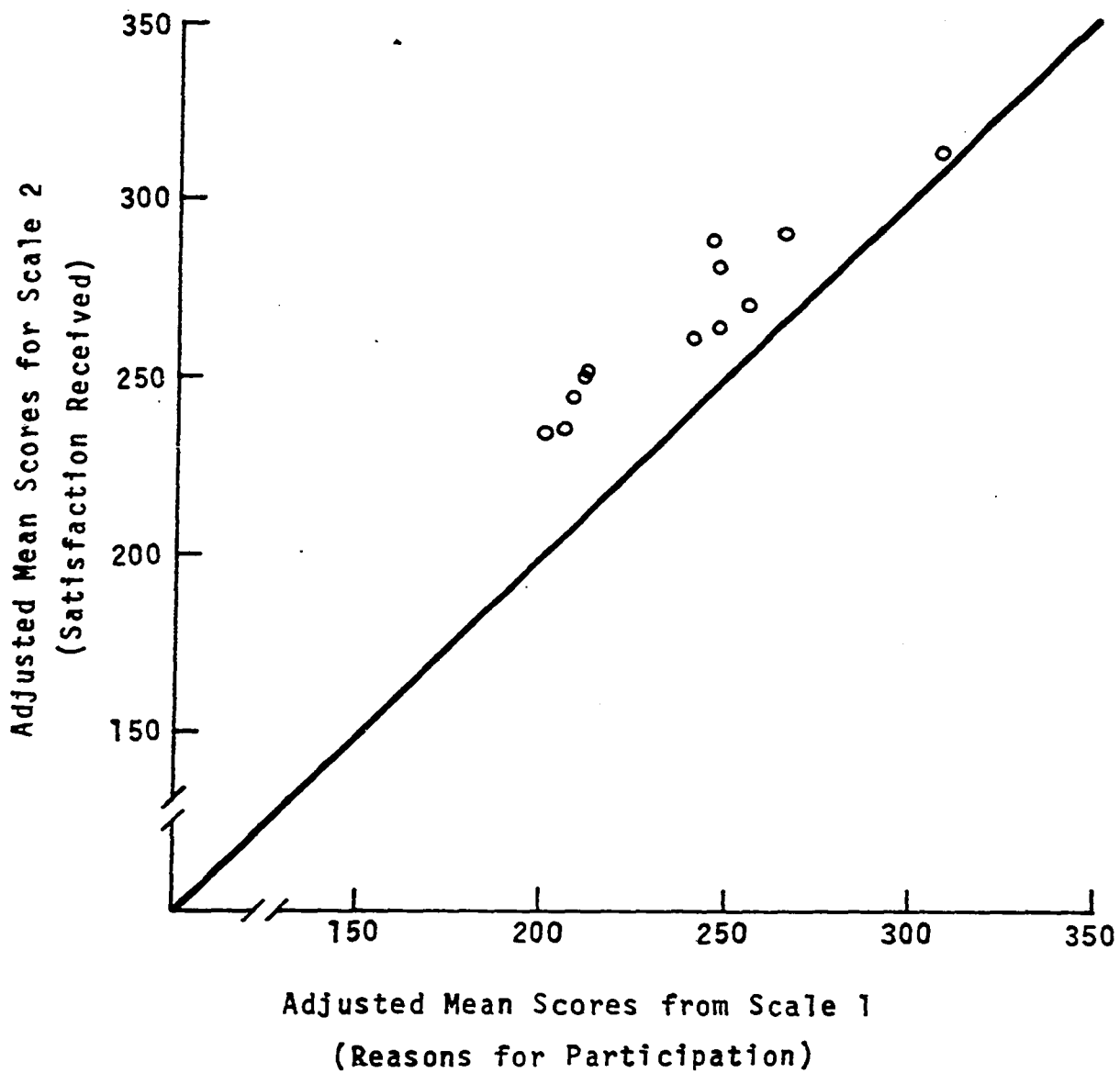


Figure 6. Relationships of adjusted means from Scale 1 and Scale 2 of the participation scale for all statements not included in Factors 1 thru 6

### Analysis of Variance Tests

To determine the existence of any differences among the alumni participants and the six identified reasons influencing participation, selected alumni characteristics and the six influencing factors were tested by multiple classification analysis of variance. Also, since it was determined that Scale 1 scores (reasons influencing participation) were strongly related to Scale 2 scores (satisfaction received from participation) for each of the six factors, an analysis of variance test based on the same statement scores from Scale 2 was computed.

The results of these tests will be reported for each factor according to the analysis of variance tests on "reasons for participation" (Scale 1) followed by tests on "satisfaction received" (Scale 2).

The selected characteristics (independent variables) for alumni used in the analysis of variance test are sex, age, size of community in which the alumni reside, highest educational level achieved by the alumni participants, undergraduate major while a student at Iowa State University, year of first graduation from ISU, and number of seminar programs attended. A summary of the independent variables and number of respondents in each category follows:

<u>Independent Variable</u>	<u>Classification</u>	<u>Number of Respondents</u>
Sex	Men	143
	Women	144
		<u>287</u>
Age	Under 45 years of age	127
	Over 46 years of age	160
		<u>287</u>
Highest Education Level Achieved	High school graduate but less than college graduate	37
	College Graduate	136
	College graduate plus graduate courses	47
	Masters degree or higher	67
		<u>287</u>
Size of Community in which the alumni reside	Population under 5000 (includes rural)	89
	Population 5000 to 30,000	74
	Population over 30,000	124
		<u>287</u>
Number of Alumni Seminars Attended	Attended one seminar	163
	Attended two seminars	61
	Attended three or more seminars	63
		<u>287</u>
Undergraduate Major while a student at Iowa State University	Agriculture	67
	Education	51
	Engineering	39
	Home Economics	85
	Science and Humanities	30
	Veterinary Medicine	9
		<u>235</u> <sup>2</sup>

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<sup>1</sup>Education was not established as a separate college until 1968.

<sup>2</sup>Does not add to 287 as not all respondents graduated or attended Iowa State University.

Year of First Graduation from Iowa State University

Year of first graduation from Iowa State University ranged from 1925 to 1970 and has been grouped as follows:

1925 to 1939	37
1940 to 1945	44
1946 to 1951	70
1952 to 1970	<u>67</u>
	218 <sup>1</sup>

Factor 1 - A Desire to be Intellectually Curious

Scale 1 (Reasons influencing participation) results from analysis of variance tests.

Test 1, for mean differences between men and women participants according to two age classifications.

Null hypotheses for Factor 1, Scale 1, Test 1:

Ho1: There is no significant difference between the mean scores for men and women participants influenced by: A Desire to be Intellectually Curious.

Ho2: There is no significant difference between the mean scores for two age groups of alumni influenced by: A Desire to be Intellectually Curious.

Ho3: There is no interaction between men and women participants in two age groups influenced by: A Desire to be Intellectually Curious.

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<sup>1</sup>Does not add to 287 as not all respondents graduated from Iowa State University.

Results of Test 1:

- Ho1: is rejected, there is a highly significant difference between the mean scores for men and women participants influenced by: A Desire to be Intellectually Curious. Mean for men, 64.9 and mean for women 73.3.
- Ho2: The evidence is insufficient to reject the hypothesis.
- Ho3: The evidence is insufficient to reject the hypothesis.

Table 15. Analysis of variance of the statements in Factor 1 (A Desire to be Intellectually Curious) for alumni participants classified according to sex and age

Source of variance	Degrees of freedom	Sum of squares	Mean squares	F
Sex	1	450052	450052	11.08**
Age	1	72460	72460	1.78
Sex X age	1	54470	54470	1.34
Error	283	1129525	40632	

\*\* Highly significant at the .01 level,  $F_{.01}(1,283) = 6.73$ .

Test 2 for mean differences between men and women participants according to four levels of education.

Null hypotheses for Factor 1, Scale 1 and Test 2:

- Ho1: There is no significant difference between the mean scores for men and women participants influenced by: A Desire to be Intellectually Curious.

Ho2: There is no significant difference between mean scores for four educational levels of alumni influenced by: A Desire to be Intellectually Curious.

Ho3: There is no interaction between men and women participants in four educational levels influenced by: A Desire to be Intellectually Curious.

Results of Test 2:

Ho1: is rejected, there is a highly significant difference between the mean scores for men and women participants influenced by: A Desire to be Intellectually Curious. Mean for men, 62.3. Mean for women, 75.8.

Ho2: The evidence is insufficient to reject the hypothesis.

Ho3: The evidence is insufficient to reject the hypothesis.

Table 16. Analysis of variance of the statements in Factor 1 (A Desire to be Intellectually Curious) for alumni participants classified according to sex and educational level

Source of variance	Degrees of freedom	Sum of squares	Mean squares	F
Sex	1	396997	396997	9.95**
Educational level	3	303039	101013	2.53
Sex X educational level	3	118043	39348	0.98
Error	279	10932314	29899	

\*\* Highly significant at the .01 level,  $F_{.01}(1,279) = 6.73$ .

Test 3 for mean differences between men and women participants residing in three community population categories.

Null hypotheses for Factor 1, Scale 1 and Test 3:

Ho1: There is no significant difference between the mean scores for men and women participants influenced by: A Desire to be Intellectually Curious.

Ho2: There is no significant difference between mean scores for alumni residing in three communities of different size influenced by: A Desire to be Intellectually Curious.

Ho3: There is no interaction between men and women participants residing in three communities of different size influenced by: A Desire to be Intellectually Curious.

Results for Test 3:

Ho1: is rejected, there is a significant difference between the mean scores for men and women participants influenced by: A Desire to be Intellectually Curious. Mean for men, 63.6. Mean for women, 75.5.

Ho2: The evidence is insufficient to reject the hypothesis.

Ho3: The evidence is insufficient to reject the hypothesis.

Test 4 for mean differences between two age categories and four levels of education exhibited by the alumni participants.

Null hypotheses for Factor 1, Scale 1 and Test 4:

Ho1: There is no significant difference between the mean scores for two age groups of alumni influenced by: A Desire to be Intellectually Curious.

Ho2: There is no significant difference between mean scores for four educational levels of alumni influenced by: A Desire to be Intellectually



Table 17. Analysis of variance of the statements in Factor 1 (A Desire to be Intellectually Curious) for alumni participants classified according to sex and community size

Source of variance	Degrees of freedom	Sum of squares	Mean squares	F
Sex	1	238133	238133	5.81*
Community size	2	12185	6092	0.15
Sex X community size	2	48473	24236	0.59
Error	281	11315076	40997	

\* Significant at the .05 level,  $F_{.05}(1,281) = 387$ .

Curious.

Ho3: There is no interaction between alumni age groups and educational levels influenced by: A Desire to be Intellectually Curious.

Results of Test 4:

Ho1: The evidence is insufficient to reject the hypothesis.

Ho2: The evidence is insufficient to reject the hypothesis.

Ho3: The evidence is insufficient to reject the hypothesis.

Test 5 for mean differences between two alumni age groups residing in three community population categories.

Null hypotheses for Factor 1, Scale 1 and Test 5:

Ho1: There is no significant difference between the mean scores for two age groups of alumni influenced by: A Desire to be Intellectually Curious.

Ho2: There is no significant difference between the means for alumni residing in three communities of different size influenced by: A Desire to be Intellectually Curious.

Ho3: There is no interaction between the two alumni age groups and three community sizes influenced by: A Desire to be Intellectually Curious.

Results of Test 5:

Ho1: The evidence is insufficient to reject the hypothesis.

Ho2: The evidence is insufficient to reject the hypothesis.

Ho3: The evidence is insufficient to reject the hypothesis.

Test 6 for mean differences between alumni represented by four educational levels and residing in three community population categories.

Null hypotheses for Factor 1, Scale 1 and Test 6:

Ho1: There is no significant difference between the mean scores for alumni represented by four educational levels and influenced by: A Desire to be Intellectually Curious.

Ho2: There is no significant difference between the mean scores for alumni residing in three communities of different size and influenced by: A Desire to be Intellectually Curious.

Ho3: There is no interaction between alumni represented by four educational levels and residing in three communities of different size and influenced by: A Desire to be Intellectually Curious.

Table 18. Analysis of variance of the statements in Factor 1 (A Desire to be Intellectually Curious) for alumni participants classified according to educational level and community size

Source of variance	Degrees of freedom	Sum of squares	Mean squares	F
Educational level	3	393334	131111	3.11*
Community size	2	57917	28958	0.69
Educational level X community size	6	414585	69097	1.64
Error	275	11355607	40257	

\* Significant at the .05 level,  $F_{.05}(3,275) = 2.64$ .

Results of Test 6:

Ho1: is rejected, there is a significant difference between the mean scores for alumni represented by four educational levels and influenced by: A Desire to be Intellectually Curious. Table 19 shows the means for each of the educational levels.

Ho2: The evidence is insufficient to reject the hypothesis.

Ho3: The evidence is insufficient to reject the hypothesis.

Table 19. Test 6 means for seminar participants represented by four educational levels and degree that Factor 1 influenced participation

Educational level	Factor 1 means
High school graduate but less than college graduate	67.4
College graduate	72.1
College graduate plus graduate courses	68.6
Masters degree or higher	71.1

Test 7 for mean differences between men and women and frequency of participation in the alumni seminars.

Null hypotheses for Factor 1, Scale 1, Test 7:

H01: There is no significant difference between the mean scores for men and women participants influenced by: A Desire to be Intellectually Curious.

H02: There is no significant difference in frequency of participation in the alumni seminars as influenced by: A Desire to be Intellectually Curious.

H03: There is no interaction between men and women and the frequency of participation in the seminars as influenced by: A Desire to be Intellectually Curious.

Results of Test 7:

H01: is rejected, there is a significant difference between mean scores for men and women participants influenced by: A Desire to be Intellectually Curious.

H02: The evidence is insufficient to reject the hypothesis.

H03: The evidence is insufficient to reject the hypothesis.

Table 20. Analysis of variance of the statements in Factor 1 (A Desire to be Intellectually Curious) for alumni participants classified according to sex and number of programs attended

Source of variance	Degrees of freedom	Sum of squares	Mean squares	F
Sex	1	212932	212932	5.27*
Number of programs attended	2	80612	40306	0.99
Sex X number of programs attended	2	120199	60099	1.48
Error	281	11143195	40374	

\*Significant at the .05 level,  $F_{.05}(1,281) = 3.87$ .

Test 8 for mean differences between two age categories and frequency of participation in the alumni seminars.

Null hypotheses for Factor 1, Scale 1, Test 8:

- Hol: There is no significant difference between the mean scores for two age groups of alumni influenced by: A Desire to be Intellectually Curious.
- Ho2: There is no significant difference between mean scores for frequency of participation in the alumni seminars as influenced by: A Desire to be Intellectually Curious.
- Ho3: There is no interaction between two age groups and frequency of participation in the alumni seminars as influenced by: A Desire to be Intellectually Curious.

Results of Test 8

- Hol: The evidence is insufficient to reject the hypothesis.
- Ho2: The evidence is insufficient to reject the hypothesis.
- Ho3: The evidence is insufficient to reject the hypothesis.

Test 9 for mean differences between four educational levels and frequency of participation in the alumni seminars.

Null hypotheses for Factor 1, Scale 1, Test 9:

- Hol: There is no significant difference between the mean scores for four educational levels of alumni influenced by: A Desire to be Intellectually Curious.
- Ho2: There is no significant difference between the mean scores for frequency of participation in the alumni seminars as influenced by: A Desire to be Intellectually Curious.

Ho3: There is no interaction between the mean scores for educational level and frequency of participation in the alumni seminars as influenced by: A Desire to be Intellectually Curious.

Results of Test 9:

Ho1: The evidence is insufficient to reject the hypothesis.

Ho2: The evidence is insufficient to reject the hypothesis.

Ho3: The evidence is insufficient to reject the hypothesis.

Test 10 for mean differences between three community population categories and frequency of participation in the alumni seminars.

Null hypotheses for Factor 1, Scale 1, Test 10:

Ho1: There is no significant difference between mean scores for three community population categories as influenced by: A Desire to be Intellectually Curious.

Ho2: There is no significant difference between mean scores for frequency of participation in the alumni seminars.

Ho3: There is no interaction between mean scores for three community population categories and frequency of participation in the alumni seminars as influenced by: A Desire to be Intellectually Curious.

Results of Test 10:

Ho1: The evidence is insufficient to reject the hypothesis.

Ho2: The evidence is insufficient to reject the hypothesis.

Ho3: The evidence is insufficient to reject the hypothesis.

Test 11 for mean differences between four periods of graduation from Iowa State University and frequency of participation in the alumni seminars.

Null hypotheses for Factor 1, Scale 1, Test 11:

Ho1: There is no significant difference between mean scores of four different periods of graduation from Iowa State University as influenced by: A Desire to be Intellectually Curious.

Ho2: There is no significant difference between mean scores for frequency of participation in the alumni seminars as influenced by: A Desire to be Intellectually Curious.

Ho3: There is no interaction between four different periods of graduation from Iowa State University and frequency of participation in the alumni seminars as influenced by: A Desire to be Intellectually Curious.

Results of Test 11:

Ho1: The evidence is insufficient to reject the hypothesis.

Ho2: The evidence is insufficient to reject the hypothesis.

Ho3: The evidence is insufficient to reject the hypothesis.

Test 12 for mean differences between six undergraduate majors and frequency of participation in the alumni seminars.

Null hypotheses for Factor 1, Scale 1, Test 12.

Ho1: There is no significant difference between the means for six undergraduate major classifications as influenced by: A Desire to be Intellectually Curious.

Ho2: There is no significant difference between the means for frequency of participation in the alumni seminars as influenced by: A Desire to be Intellectually Curious.

Ho3: There is no interaction between the six undergraduate major classifications and frequency of participation in the alumni seminars as influenced by: A Desire to be Intellectually Curious.

Results of Test 12:

Ho1: The evidence is insufficient to reject the hypothesis.

Ho2: The evidence is insufficient to reject the hypothesis.

Ho3: The evidence is insufficient to reject the hypothesis.

Factor 1 - A Desire to be Intellectually Curious

Scale 2 (Satisfaction received from participation)

results from analysis of variance tests.

Test 1 for mean differences between men and women participants according to two age classifications.

Null hypotheses for Factor 1, Scale 2, Test 1:

Ho1: There is no significant difference between the mean scores for men and women participants influenced by: A Desire to be Intellectually Curious.

Ho2: There is no significant difference between the mean scores for two age groups of alumni influenced by: A Desire to be Intellectually Curious.

Ho3: There is no interaction between men and women participants in two age groups influenced by: A Desire to be Intellectually Curious.

Results of Test 1:

Ho1: The evidence is insufficient to reject the hypothesis.

Ho2: The evidence is insufficient to reject the hypothesis.



Ho3: The evidence is insufficient to reject the hypothesis.

Test 2 for mean differences between men and women participants according to four levels of education.

Null hypotheses for Factor 1, Scale 2, Test 2:

Ho1: There is no significant difference between the mean scores for men and women participants influenced by: A Desire to be Intellectually Curious.

Ho2: There is no significant difference between mean scores for four educational levels of alumni influenced by: A Desire to be Intellectually Curious.

Ho3: There is no interaction between men and women participants in four educational levels influenced by: A Desire to be Intellectually Curious.

Table 21. Analysis of variance of the statements for Scale 2 (satisfaction recorded) from Factor 1 (A Desire to be Intellectually Curious) for alumni participants classified according to sex and educational level

Source of variance	Degrees of freedom	Sum of squares	Mean squares	F
Sex	1	524672	524672	12.19**
Educational level	3	271052	90351	2.10
Sex X educational level	3	290919	96973	2.25
Error	279	11790962	43033	

\*\* Highly significant at the .01 level,  $F_{.01}(1,279) = 6.73$ .

Results of Test 2:

- Ho1: is rejected, there is a highly significant difference between the mean scores for men and women participants influenced by: A Desire to be Intellectually Curious. The mean for men is 64.6. The mean for women is 78.1.
- Ho2: The evidence is insufficient to reject the hypothesis.
- Ho3: The evidence is insufficient to reject the hypothesis.

Test 3 for mean differences between men and women participants residing in three community population categories.

Null hypotheses for Factor 1, Scale 2 and Test 3:

- Ho1: There is no significant difference between the mean scores for men and women participants influenced by: A Desire to be Intellectually Curious.
- Ho2: There is no significant difference between mean scores for alumni residing in three communities of different size influenced by: A Desire to be Intellectually Curious.
- Ho3: There is no interaction between men and women participants residing in three communities of different size influenced by: A Desire to be Intellectually Curious.

Results of Test 3:

- Ho1: is rejected, there is a highly significant difference between the mean scores for men and women participants as influenced by: A Desire to be Intellectually Curious. The mean for men is 67.0. The mean for women is 74.9.
- Ho2: The evidence is insufficient to reject the hypothesis.
- Ho3: The evidence is insufficient to reject the hypothesis.

Table 22. Analysis of variance of the statements for Scale 2 scores (satisfaction recorded) from Factor 1 (A Desire to be Intellectually Curious) for alumni participants classified according to sex and community size

Source of variance	Degrees of freedom	Sum of squares	Mean squares	F
Sex	1	305519	305519	6.99**
Community size	2	24811	12405	0.28
Sex X community size	2	74926	37463	0.86
Error	281	12055351	43697	

\*\* Highly significant at the .01 level,  $F_{.01}(1,281) = 6.73$ .

Test 4 for mean differences between two age categories and four levels of education exhibited by the alumni participants.

Null hypotheses for Factor 1, Scale 2 and Test 4:

Ho1: There is no significant difference between the mean scores for two age groups of alumni influenced by: A Desire to be Intellectually Curious.

Ho2: There is no significant difference between mean scores for four educational levels of alumni influenced by: A Desire to be Intellectually Curious.

Ho3: There is no interaction between alumni age groups and educational level as influenced by: A Desire to be Intellectually Curious.

Results of Test 4:

Ho1: The evidence is insufficient to reject the hypothesis.

Ho2: The evidence is insufficient to reject the hypothesis.

Ho3: The evidence is insufficient to reject the hypothesis.

Test 5-for mean differences between two alumni age groups and residing in three community population categories.

Null hypotheses for Factor 1, Scale 2 and Test 5:

Ho1: There is no significant difference between the mean scores for two age groups of alumni influenced by: A Desire to be Intellectually Curious.

Ho2: There is no significant difference between the mean scores for alumni residing in three communities of different size.

Ho3: There is no interaction between two alumni age groups and three community sizes influenced by: A Desire to be Intellectually Curious.

Results of Test 5:

Ho1: The evidence is insufficient to reject the hypothesis.

Ho2: The evidence is insufficient to reject the hypothesis.

Ho3: The evidence is insufficient to reject the hypothesis.

Test 6 for mean differences between alumni represented by four educational levels and residing in three community population categories.

Null hypotheses for Factor 1, Scale 2 and Test 6:

Ho1: There is no significant difference between the mean scores for alumni represented by four educational levels and influenced by: A Desire to be Intellectually Curious.

Ho2: There is no significant difference between the mean scores for alumni residing in three communities of different size and influenced by: A Desire to be Intellectually Curious.

Ho3: There is no interaction between alumni represented by four educational levels and residing in three communities of different size and influenced by: A Desire to be Intellectually Curious.

Results of Test 6:

Ho1: The evidence is insufficient to reject the hypothesis.

Ho2: The evidence is insufficient to reject the hypothesis.

Ho3: The evidence is insufficient to reject the hypothesis.

Test 7 for mean differences between men and women and frequency of participation in the alumni seminars.

Null hypotheses for Factor 1, Scale 2, Test 7:

Ho1: There is no significant difference between the mean scores for men and women participants influenced by: A Desire to be Intellectually Curious.

Ho2: There is no significant difference in frequency of participation in the alumni seminars as influenced by: A Desire to be Intellectually Curious.

Ho3: There is no interaction between men and women and frequency of participation in the seminars as influenced by: A Desire to be Intellectually Curious.

Results of Test 7:

Ho1: is rejected, there is a significant difference between the mean scores for men and women. Mean for men is 68.2 and mean for women is 74.5.

Ho2: The evidence is insufficient to reject the hypothesis.

Ho3: The evidence is insufficient to reject the hypothesis.

Table 23. Analysis of variance of the statements for Scale 2 scores (satisfaction achieved) from Factor 1 (A Desire to be Intellectually Curious) for alumni participants classified according to sex and number of programs attended

Source of variance	Degrees of freedom	Sum of squares	Mean squares	F
Sex	1	173476	173476	4.03*
Number of programs attended	2	146857	73428	1.70
Sex X number of programs attended	2	173369	86684	2.01
Error	281	11883912	43058	

\* Significant at the .05 level,  $F_{.05}(1,281) = 3.87$ .

Test 8 for mean differences between two age categories and frequency of participation in the alumni seminars.

Null hypotheses for Factor 1, Scale 2, and Test 8:

Ho1: There is no significant difference between the mean scores for two age groups of alumni influenced by: A Desire to be Intellectually Curious.

Ho2: There is no significant difference in mean scores for frequency of participation in the alumni seminars as influenced by: A Desire to be Intellectually Curious.

Ho3: There is no interaction between two age groups and frequency of participation in the alumni seminars as influenced by: A Desire to be Intellectually Curious.

Results of Test 8:

Ho1: is rejected, there is a highly significant difference between the mean scores for the two age groups. Mean for alumni under 45 years of age is 73.1. Mean for alumni over 46 years of age is 69.9.

Ho2: The evidence is insufficient to reject the hypothesis.

Ho3: The evidence is insufficient to reject the hypothesis.

Table 24. Analysis of variance of the statements for Scale 2 scores (satisfaction received) from Factor 1 (A Desire to be Intellectually Curious) for alumni participants classified according to age and number of programs attended

Source of variance	Degrees of freedom	Sum of squares	Mean squares	F
Age	1	370652	370652	8.37**
Number of programs attended	2	25925	12962	0.29
Age X number of programs attended	2	187586	93793	2.12
Error	281	12222746	44285	

\*\* Highly significant at .01 level,  $F_{.01}(1,281) = 6.73$ .

Test 9 for mean differences between four educational levels and frequency of participation in the alumni seminars.

Null hypotheses for Factor 1, Scale 2, and Test 9:

Ho1: There is no significant difference between the mean scores for four educational levels of alumni influenced by: A Desire to be Intellectually Curious.

- Ho2: There is no significant difference between the mean scores for frequency of participation in the alumni seminars as influenced by: A Desire to be Intellectually Curious.
- Ho3: There is no interaction between the mean scores for educational level and frequency of participation in the alumni seminars as influenced by: A Desire to be Intellectually Curious.

Results of Test 9:

- Ho1: The evidence is insufficient to reject the hypothesis.
- Ho2: The evidence is insufficient to reject the hypothesis.
- Ho3: The evidence is insufficient to reject the hypothesis.

Test 10 for mean differences between three community population categories and frequency of participation in the alumni seminars.

Null hypotheses for Factor 1, Scale 2, Test 10:

- Ho1: There is no significant difference between mean scores for three community population categories as influenced by: A Desire to be Intellectually Curious.
- Ho2: There is no significant difference between mean scores for frequency of participation in the alumni seminars as influenced by: A Desire to be Intellectually Curious.
- Ho3: There is no interaction between mean scores for three community population categories and frequency of participation in the alumni seminars as influenced by: A Desire to be Intellectually Curious.

Results of Test 10:

- Ho1: The evidence is insufficient to reject the hypothesis.



Ho2: The evidence is insufficient to reject the hypothesis.

Ho3: The evidence is insufficient to reject the hypothesis.

Test 11 for mean differences between four periods of graduation from Iowa State University and frequency of participation in the alumni seminars.

Null hypotheses for Factor 1, Scale 2, Test 11:

Ho1: There is no significant difference between mean scores for four different periods of graduation from Iowa State University as influenced by: A Desire to be Intellectually Curious.

Ho2: There is no significant difference between mean scores for frequency of participation in the alumni seminars as influenced by: A Desire to be Intellectually Curious.

Ho3: There is no interaction between four different periods of graduation from Iowa State University and frequency of participation in the alumni seminars as influenced by: A Desire to be Intellectually Curious.

Results of Test 11:

Ho1: The evidence is insufficient to reject the hypothesis.

Ho2: The evidence is insufficient to reject the hypothesis.

Ho3: The evidence is insufficient to reject the hypothesis.

Test 12 for mean differences between six undergraduate majors and frequency of participation in the alumni seminars.

Null hypotheses for Factor 1, Scale 2, Test 12:

- Ho1: There is no significant difference between the mean scores for six undergraduate major classifications as influenced by: A Desire to be Intellectually Curious.
- Ho2: There is no significant difference between the means for frequency of participation in the alumni seminars as influenced by: A Desire to be Intellectually Curious.
- Ho3: There is no interaction between the six undergraduate major classifications and frequency of participation in the alumni seminars as influenced by: A Desire to be Intellectually Curious.

Results of Test 12:

- Ho1: The evidence is insufficient to reject the hypothesis.
- Ho2: The evidence is insufficient to reject the hypothesis.
- Ho3: The evidence is insufficient to reject the hypothesis.

Factor 2 - A Desire to Escape from Boredom Through Intellectual Pursuits

Scale 1 (Reasons influencing participation) results from analysis of variance tests.

Test 1 - for mean differences between men and women participants according to two age classifications.

Null hypotheses for Factor 2, Scale 1, Test 1:

- Ho1: There is no significant difference between the mean scores for men and women participants influenced by: A Desire to Escape from Boredom Through Intellectual Pursuits.
- Ho2: There is no significant difference between the mean scores for two age groups of alumni influenced by: A Desire to Escape from Boredom Through Intellectual Pursuits.

Ho3: There is no interaction between men and women participants in two age groups influenced by: A Desire to Escape from Boredom through Intellectual Pursuits.

Results of Test 1:

Ho1: The evidence is insufficient to reject the hypothesis.

Ho2: The evidence is insufficient to reject the hypothesis.

Ho3: The evidence is insufficient to reject the hypothesis.

Test 2 - for mean differences between men and women participants according to four levels of education.

Null hypotheses for Factor 2, Scale 1, Test 2:

Ho1: There is no significant difference between the mean scores for men and women participants influenced by: A Desire to Escape from Boredom Through Intellectual Pursuits.

Ho2: There is no significant difference between mean scores for four educational levels of alumni influenced by: A Desire to Escape from Boredom Through Intellectual Pursuits.

Ho3: There is no interaction between men and women participants in four educational levels influenced by: A Desire to Escape from Boredom Through Intellectual Pursuits.

Results of Test 2:

Ho1: The evidence is insufficient to reject the hypothesis.

Ho2: The evidence is insufficient to reject the hypothesis.

Ho3: The evidence is insufficient to reject the hypothesis.

Test 3 - for mean differences between men and women participants residing in three community population categories.

Null hypotheses for Factor 2, Scale 1, Test 3:

- Ho1: There is no significant difference between the mean scores for men and women participants influenced by: A Desire to Escape from Boredom Through Intellectual Pursuits.
- Ho2: There is no significant differences between mean scores for alumni residing in three communities of different size as influenced by: A Desire to Escape from Boredom Through Intellectual Pursuit.
- Ho3: There is no interaction between men and women participants residing in three communities of different size and influenced by: A Desire to Escape from Boredom Through Intellectual Pursuits.

Results of Test 3:

- Ho1: The evidence is insufficient to reject the hypothesis.
- Ho2: The evidence is insufficient to reject the hypothesis.
- Ho3: The evidence is insufficient to reject the hypothesis.

Test 4 - for mean differences between two age categories and four levels of education exhibited by the alumni participants.

Null hypotheses for Factor 2, Scale 1, Test 4:

- Ho1: There is no significant difference between the mean scores for two age groups of alumni influenced by: A Desire to Escape from Boredom Through Intellectual Pursuits.
- Ho2: There is no significant difference between mean scores for four educational levels of alumni influenced by: A Desire to Escape from Boredom Through Intellectual Pursuits.

Ho3: There is no interaction between alumni age groups and educational levels influenced by: A Desire to Escape from Boredom Through Intellectual Pursuits.

Results of Test 4:

Ho1: The evidence is insufficient to reject the hypothesis.

Ho2: The evidence is insufficient to reject the hypothesis.

Ho3: The evidence is insufficient to reject the hypothesis.

Test 5 - for mean differences between two alumni age groups and three community population categories.

Null hypotheses for Factor 2, Scale 1, Test 5:

Ho1: There is no significant difference between the mean scores for two age groups of alumni influenced by: A Desire to Escape from Boredom Through Intellectual Pursuits.

Ho2: There is no significant difference between the means for alumni residing in three communities of different size and influenced by: A Desire to Escape from Boredom Through Intellectual Pursuits.

Ho3: There is no interaction between the two alumni age groups and three community sizes influenced by: A Desire to Escape from Boredom Through Intellectual Pursuits.

Results of Test 5:

Ho1: The evidence is insufficient to reject the hypothesis.

Ho2: The evidence is insufficient to reject the hypothesis.

Ho3: The evidence is insufficient to reject the hypothesis.

Test 6 - for mean differences between alumni represented by four educational levels and residing in three community population categories.

Null hypotheses for Factor 2, Scale 1, Test 6:

- Ho1: There is no significant difference between the mean scores for alumni represented by four educational levels and influenced by: A Desire to Escape from Boredom Through Intellectual Pursuits.
- Ho2: There is no significant difference between the mean scores for alumni residing in three communities of different size and influenced by: A Desire to Escape from Boredom Through Intellectual Pursuits.
- Ho3: There is no interaction between alumni represented by four educational levels and residing in three communities of different size and influenced by: A Desire to Escape from Boredom Through Intellectual Pursuits.

Results of Test 6:

- Ho1: The evidence is insufficient to reject the hypothesis.
- Ho2: is rejected, there is a significant difference between the mean scores for alumni residing in three communities of different size.
- Mean for alumni residing in communities under 5,000 is 26.5.
- Mean for alumni residing in communities between 5,000 and 30,000 is 23.7.
- Mean for alumni residing in communities over 30,000 is 24.1.
- Ho3: The evidence is insufficient to reject the hypothesis.

Table 25. Analysis of variance of the statements for Scale 1 scores (reasons influencing participation) from Factor 2 (A Desire to Escape from Boredom Through Intellectual Pursuits) for alumni participants classified according to educational level and community size

Source of variance	Degrees of freedom	Sum of squares	Mean squares	F
Educational level	3	39870	13290	0.83
Community size	2	98733	49367	3.08*
Educational level X community size	6	231657	38610	2.41
Error	275	4327747	16029	

\*Significant at the .05 level,  $F_{.05}(2,275) = 3.03$ .

Test 7 - for mean differences between men and women and frequency of participation in the alumni seminars.

Null hypotheses for Factor 2, Scale 1, Test 7:

Ho1: There is no significant difference between the mean scores for men and women participants influenced by: A Desire to Escape from Boredom Through Intellectual Pursuits.

Ho2: There is no significant difference in frequency of participation in the alumni seminars as influenced by: A Desire to Escape from Boredom Through Intellectual Pursuits.

Ho3: There is no interaction between men and women and frequency of participation in the seminars as influenced by: A Desire to Escape from Boredom Through Intellectual Pursuits.

Results of Test 7:

Ho1: The evidence is insufficient to reject the hypothesis.

Ho2: The evidence is insufficient to reject the hypothesis.

Ho3: The evidence is insufficient to reject the hypothesis.

Test 8 - for mean differences between two age categories and frequency of participation in the alumni seminars.

Null hypotheses for Factor 2, Scale 1, Test 8:

Ho1: There is no significant difference between the mean scores for two age groups of alumni influenced by: A Desire to Escape from Boredom through Intellectual Pursuits.

Ho2: There is no significant difference between mean scores for frequency of participation in the alumni seminars as influenced by: A Desire to Escape from Boredom Through Intellectual Pursuits.

Ho3: There is no interaction between two age groups and frequency of participation in the alumni seminars as influenced by: A Desire to Escape from Boredom Through Intellectual Pursuits.

Results of Test 8:

Ho1: The evidence is insufficient to reject the hypothesis.

Ho2: The evidence is insufficient to reject the hypothesis.

Ho3: The evidence is insufficient to reject the hypothesis.

Test 9 - for mean differences between four educational levels and frequency of participation in the alumni seminars.

Null hypotheses for Factor 2, Scale 1, Test 9:

Ho1: There is no significant difference between the mean scores for four educational levels of alumni influenced by: A Desire to Escape from Boredom Through Intellectual Pursuits.



Ho2: There is no significant difference between the mean scores for frequency of participation in the alumni seminars as influenced by: A Desire to Escape from Boredom Through Intellectual Pursuits.

Ho3: There is no interaction between the mean scores for educational level and frequency of participation in the alumni seminars as influenced by: A Desire to Escape from Boredom Through Intellectual Pursuits.

Results of Test 9:

Ho1: The evidence is insufficient to reject the hypothesis.

Ho2: The evidence is insufficient to reject the hypothesis.

Ho3: The evidence is insufficient to reject the hypothesis.

Test 10 - for mean differences between three community population categories and frequency of participation in the alumni seminars.

Null hypotheses for Factor 2, Scale 1, Test 10:

Ho1: There is no significant difference between mean scores for three community population categories as influenced by: A Desire to Escape from Boredom Through Intellectual Pursuits.

Ho2: There is no significant difference between mean scores for frequency of participation in the alumni seminars as influenced by: A Desire to Escape from Boredom Through Intellectual Pursuits.

Ho3: There is no interaction between mean scores for three community population categories and frequency of participation in the alumni seminars as influenced by: A Desire to Escape from Boredom Through Intellectual Pursuits.

Results of Test 10:

- Ho1: The evidence is insufficient to reject the hypothesis.
- Ho2: is rejected, there is a significant difference between the mean scores for frequency of participation and the statements for Scale 1 from Factor 2 (A Desire to Escape from Boredom Through Intellectual Pursuits). Mean for participants attending one seminar is 27. Mean for participants attending two seminars is 30. Mean for participants attending three or more seminars is 28.1.
- Ho3: The evidence is insufficient to reject the hypothesis.

Table 26. Analysis of variance of the statements for Scale 1 scores (reasons influencing participation) from Factor 2 (A Desire to Escape from Boredom Through Intellectual Pursuits) for alumni participants classified according to size of community and number of programs attended

Source of variance	Degrees of freedom	Sum of squares	Mean squares	F
Size of community	2	5364	2682	0.16
Number of programs attended	2	121940	60970	3.74*
Size of community X number of programs attended	4	151344	37836	2.32
Error	278	4452628	16310	

\* Significant at the .05 level,  $F_{.05}(2,278) = 3.03$ .

Test 11 - for mean differences between four periods of graduation from Iowa State University and frequency of participation in the alumni seminars.

Null hypotheses for Factor 2, Scale 1, Test 11:

- Ho1: There is no significant difference between mean scores for four different periods of graduation from Iowa State University as influenced by: A Desire to Escape from Boredom Through Intellectual Pursuits.
- Ho2: There is no significant difference between mean scores for frequency of participation in the alumni seminars as influenced by: A Desire to Escape from Boredom Through Intellectual Pursuits.
- Ho3: There is no interaction between four different periods of graduation from Iowa State University and frequency of participation in the alumni seminars as influenced by: A Desire to Escape from Boredom Through Intellectual Pursuits.

Results of Test 11:

- Ho1: The evidence is insufficient to reject the hypothesis.
- Ho2: The evidence is insufficient to reject the hypothesis.
- Ho3: The evidence is insufficient to reject the hypothesis.

Test 12 - for mean differences between six undergraduate majors and frequency of participation in the alumni seminars.

Null hypotheses for Factor 2, Scale 1, Test 12:

- Ho1: There is no significant difference between the means for six undergraduate major classifications as influenced by: A Desire to Escape from Boredom Through Intellectual Pursuits.

- Ho2: There is no significant difference between the means for frequency of participation in the alumni seminars as influenced by: A Desire to Escape from Boredom Through Intellectual Pursuits.
- Ho3: There is no interaction between the six undergraduate major classifications and frequency of participation in the alumni seminars as influenced by: A Desire to Escape from Boredom Through Intellectual Pursuits.

Results of Test 12:

- Ho1: The evidence is insufficient to reject the hypothesis.
- Ho2: The evidence is insufficient to reject the hypothesis.
- Ho3: The evidence is insufficient to reject the hypothesis.

Factor 2 - A Desire to Escape from Boredom Through Intellectual Pursuits

Scale 2 (Satisfaction received from participation) results from analysis of variance tests.

Test 1 - for mean differences between men and women participants according to two age classifications.

Null hypotheses for Factor 2, Scale 2, Test 1:

- Ho1: There is no significant difference between the mean scores for men and women participants influenced by: A Desire to Escape from Boredom Through Intellectual Pursuits.
- Ho2: There is no significant difference between the mean scores for two age groups of alumni influenced by: A Desire to Escape from Boredom Through Intellectual Pursuits.
- Ho3: There is no interaction between men and women participants in two age groups influenced by: A Desire to Escape from Boredom Through Intellectual Pursuits.

Results of Test 1:

- Ho1: The evidence is insufficient to reject the hypothesis.
- Ho2: The evidence is insufficient to reject the hypothesis.
- Ho3: The evidence is insufficient to reject the hypothesis.

Test 2 - for mean differences between men and women participants according to four level of education.

Null hypotheses for Factor 2, Scale 2, Test 2:

- Ho1: There is no significant difference between the mean scores for men and women participants influenced by: A Desire to Escape from Boredom Through Intellectual Pursuits.
- Ho2: There is no significant difference between mean scores for four educational levels of alumni influenced by: A Desire to Escape from Boredom Through Intellectual Pursuits.
- Ho3: There is no interaction between men and women participants in four educational levels influenced by: A Desire to Escape from Boredom Through Intellectual Pursuits.

Results of Test 2:

- Ho1: The evidence is insufficient to reject the hypothesis.
- Ho2: The evidence is insufficient to reject the hypothesis.
- Ho3: The evidence is insufficient to reject the hypothesis.

Test 3 - for mean differences between men and women participants according to three community population categories.

Null hypotheses for Factor 2, Scale 2, Test 3:

- Ho1: There is no significant difference between the mean scores for men and women participants influenced by: A Desire to Escape from Boredom Through Intellectual Pursuits.
- Ho2: There is no significant difference between mean scores for alumni residing in three communities of different size and influenced by: A Desire to Escape from Boredom Through Intellectual Pursuits.
- Ho3: There is no interaction between men and women participants residing in three communities of different size and influenced by: A Desire to Escape from Boredom Through Intellectual Pursuits.

Results of Test 3:

- Ho1: The evidence is insufficient to reject the hypothesis.
- Ho2: The evidence is insufficient to reject the hypothesis.
- Ho3: The evidence is insufficient to reject the hypothesis.

Test 4 - for mean differences between two age categories and four levels of education exhibited by the alumni participants.

Null hypotheses for Factor 2, Scale 2, Test 4:

- Ho1: There is no significant difference between the mean scores for two age groups of alumni influenced by: A Desire to Escape from Boredom Through Intellectual Pursuits.
- Ho2: There is no significant difference between mean scores for four educational levels of alumni influenced by: A Desire to Escape from Boredom Through Intellectual Pursuits.
- Ho3: There is no interaction between alumni age groups and educational level as influenced by: A Desire to Escape from Boredom Through Intellectual Pursuits.

Results of Test 4:

- Ho1: is rejected, there is a significant difference between the mean scores for the two age classification. The mean for participants under 45 years of age is 42.1. The mean for participants over 46 years of age is 38.8.
- Ho2: The evidence is insufficient to reject the hypothesis.
- Ho3: The evidence is insufficient to reject the hypothesis.

Table 27. Analysis of variance of the statements for Scale 2 (Satisfaction received) from Factor 2 (A Desire to Escape from Boredom Through Intellectual Pursuits) for alumni participants classified according to age and educational level

Source of variance	Degrees of freedom	Sum of squares	Mean squares	F
Age	1	76613	76613	4.16*
Educational level	3	104176	34725	1.88
Age X educational level	3	48292	16098	0.87
Error	279	5045029	18413	

\* Significant at the .05 level,  $F_{.05}(1,279) = 3.87$ .

Test 5 - for mean differences between two alumni age groups and three community population categories.

Null hypotheses for Factor 2, Scale 2, Test 5:

- Ho1: There is no significant difference between the mean scores for two age groups of alumni influenced by: A Desire to Escape from Boredom Through Intellectual Pursuits.

Ho2: There is no significant difference between the mean scores for alumni residing in three communities of different size as influenced by: A Desire to Escape from Boredom Through Intellectual Pursuits.

Ho3: There is no interaction between the two alumni age groups and three community sizes influenced by: A Desire to Escape from Boredom Through Intellectual Pursuits.

Results of Test 5:

Ho1: The evidence is insufficient to reject the hypothesis.

Ho2: The evidence is insufficient to reject the hypothesis.

Ho3: The evidence is insufficient to reject the hypothesis.

Test 6 - for mean differences between alumni represented by four educational levels and residing in three community population categories.

Null hypotheses for Factor 2, Scale 2, Test 6:

Ho1: There is no significant difference between the mean scores for alumni represented by four educational levels and influenced by: A Desire to Escape from Boredom Through Intellectual Pursuits.

Ho2: There is no significant difference between the mean scores for alumni residing in three communities of different size and influenced by: A Desire to Escape from Boredom Through Intellectual Pursuits.

Ho3: There is no interaction between alumni represented by four educational levels and residing in three communities of different size and influenced by: A Desire to Escape from Boredom Through Intellectual Pursuits.



Results of Test 6:

- Ho1: The evidence is insufficient to reject the hypothesis.
- Ho2: The evidence is insufficient to reject the hypothesis.
- Ho3: The evidence is insufficient to reject the hypothesis.

Test 7 - for mean differences between men and women and frequency of participation in the alumni seminars.

Null hypotheses for Factor 2, Scale 2, Test 7:

- Ho1: There is no significant difference between the mean scores for men and women participants influenced by: A Desire to Escape from Boredom Through Intellectual Pursuits.
- Ho2: There is no significant difference in frequency of participation in the alumni seminars and the influence by: A Desire to Escape from Boredom Through Intellectual Pursuits.
- Ho3: There is no interaction between men and women and the frequency of participation in the seminars as influenced by: A Desire to Escape from Boredom Through Intellectual Pursuits.

Results of Test 7:

- Ho1: The evidence is insufficient to reject the hypothesis.
- Ho2: The evidence is insufficient to reject the hypothesis.
- Ho3: The evidence is insufficient to reject the hypothesis.

Test 8 - for mean differences between two age categories and frequency of participation in the alumni seminars.

Null hypotheses for Factor 2, Scale 2, Test 8:

- Ho1: There is no significant difference between the mean scores for two age groups of alumni influenced by: A Desire to Escape from Boredom Through Intellectual Pursuits.
- Ho2: There is no significant difference in mean scores for frequency of participation in the alumni seminars as influenced by: A Desire to Escape from Boredom Through Intellectual Pursuits.
- Ho3: There is no interaction between two age groups and frequency of participation in the alumni seminars as influenced by: A Desire to Escape from Boredom Through Intellectual Pursuits.

Table 28. Analysis of variance of the statements for Scale 2 scores (Satisfaction received) from Factor 2 (A Desire to Escape from Boredom Through Intellectual Pursuits) for alumni participants classified according to age and number of programs attended

Source of variance	Degrees of freedom	Sum of squares	Mean squares	F
Age	1	135531	135531	7.41**
Number of programs attended	2	17499	.8750	0.48
Age X number of programs attended	2	92452	46226	2.53
Error	281	5050206	18298	

\*\* Highly significant at the .01 level,  $F_{.01}(1,281) = 6.73$ .

#### Results of Test 8:

Ho1: is rejected, there is a highly significant difference between the mean scores for two age groups of alumni influenced by: A Desire to Escape from Boredom Through Intellectual Pursuits. Mean for participants under 45 years of age is 42.1. Mean for participants over 46 years of age is 38.8.

Ho2: The evidence is insufficient to reject the hypothesis.

Ho3: The evidence is insufficient to reject the hypothesis.

Test 9 - for mean differences between four educational levels and frequency of participation in the alumni seminars.

Null hypotheses for Factor 2, Scale 2 and Test 9:

Ho1: There is no significant difference between the mean scores for four educational levels of alumni influenced by: A Desire to Escape from Boredom Through Intellectual Pursuits.

Ho2: There is no significant difference between the mean scores for frequency of participation in the alumni seminars as influenced by: A Desire to Escape from Boredom Through Intellectual Pursuits.

Ho3: There is no interaction between the mean scores for educational level and frequency of participation in the alumni seminars as influenced by: A Desire to Escape from Boredom Through Intellectual Pursuits.

Results of Test 9:

Ho1: The evidence is insufficient to reject the hypothesis.

Ho2: The evidence is insufficient to reject the hypothesis.

Ho3: The evidence is insufficient to reject the hypothesis.

Test 10 - for mean differences between three community population categories and frequency of participation in the alumni seminars.

Null hypotheses for Factor 2, Scale 2, Test 10:

- Ho1: There is no significant difference between mean scores for three community population categories as influenced by: A Desire to Escape from Boredom Through Intellectual Pursuits.
- Ho2: There is no significant difference between mean scores for frequency of participation in the alumni seminars as influenced by: A Desire to Escape from Boredom Through Intellectual Pursuits.
- Ho3: There is no interaction between mean scores for three community population categories and frequency of participation in the alumni seminars as influenced by: A Desire to Escape from Boredom Through Intellectual Pursuits.

Results of Test 10:

- Ho1: The evidence is insufficient to reject the hypothesis.
- Ho2: The evidence is insufficient to reject the hypothesis.
- Ho3: The evidence is insufficient to reject the hypothesis.

Test 11 - for mean differences between four periods of graduation from Iowa State University and frequency of participation in the alumni seminars.

Null hypotheses for Factor 2, Scale 2, Test 11:

- Ho1: There is no significant difference between mean scores for four different periods of graduation from Iowa State University as influenced by: A Desire to Escape from Boredom Through Intellectual Pursuits.
- Ho2: There is no significant difference between mean scores for frequency of participation in the alumni seminars as influenced by: A Desire to Escape from Boredom Through Intellectual Pursuits.

Ho3: There is no interaction between four different periods of graduation from Iowa State University and frequency of participation in the alumni seminars as influenced by: A Desire to Escape from Boredom Through Intellectual Pursuits.

Results of Test 11:

Ho1: The evidence is insufficient to reject the hypothesis.

Ho2: The evidence is insufficient to reject the hypothesis.

Ho3: The evidence is insufficient to reject the hypothesis.

Test 12 - for mean differences between six undergraduate majors and frequency of participation in the alumni seminars.

Null hypotheses for Factor 2, Scale 2, Test 12:

Ho1: There is no significant difference between the mean scores for six undergraduate major classifications as influenced by: A Desire to Escape from Boredom Through Intellectual Pursuits.

Ho2: There is no significant difference between the mean scores for frequency of participation in the alumni seminars as influenced by: A Desire to Escape from Boredom Through Intellectual Pursuits.

Ho3: There is no interaction between the six undergraduate major classifications and frequency of participation in the alumni seminars as influenced by: A Desire to Escape from Boredom Through Intellectual Pursuits.

Results of Test 12:

Ho1: The evidence is insufficient to reject the hypothesis.

Ho2: The evidence is insufficient to reject the hypothesis.

Ho3: The evidence is insufficient to reject the hypothesis.

Factor 3 - A Desire to Serve Others Through Intellectual Pursuits

Scale 1 (Reasons influencing participation) results from analysis of variance tests.

Test 1 - for mean differences between men and women participants according to two age classifications.

Null hypotheses for Factor 3, Scale 1, Test 1:

Ho1: There is no significant difference between the mean scores for men and women participants influenced by: A Desire to Serve Others Through Intellectual Pursuits.

Ho2: There is no significant difference between the mean scores for two age groups of alumni influenced by: A Desire to Serve Others Through Intellectual Pursuits.

Ho3: There is no interaction between men and women participants in two age groups influenced by: A Desire to Serve Others Through Intellectual Pursuits.

Results of Test 1:

Ho1: The evidence is insufficient to reject the hypothesis.

Ho2: The evidence is insufficient to reject the hypothesis.

Ho3: The evidence is insufficient to reject the hypothesis.

Test 2 - for mean differences between men and women participants according to four levels of education.

Null hypotheses for Factor 3, Scale 1, Test 2:

Ho1: There is no significant difference between the mean scores for men and women participants influenced by: A Desire to Serve Others Through Intellectual Pursuits.

Ho2: There is no significant difference between mean scores for four educational levels of alumni influenced by: A Desire to Serve Others Through Intellectual Pursuits.

Ho3: There is no interaction between men and women participants in four educational levels influenced by: A Desire to Serve Others Through Intellectual Pursuits.

Results of Test 2:

Ho1: The evidence is insufficient to reject the hypothesis.

Ho2: The evidence is insufficient to reject the hypothesis.

Ho3: The evidence is insufficient to reject the hypothesis.

Test 3 - for mean differences between men and women participants residing in three community population categories.

Null hypotheses for Factor 3, Scale 1, Test 3:

Ho1: There is no significant difference between the mean scores for men and women participants influenced by: A Desire to Serve Others Through Intellectual Pursuits.

Ho2: There is no significant difference between mean scores for alumni residing in three communities of different size as influenced by: A Desire to Serve Others Through Intellectual Pursuits.

Ho3: There is no interaction between men and women participants residing in three communities of different size and influenced by: A Desire to Serve Others Through Intellectual Pursuits.

Results of Test 3:

Ho1: The evidence is insufficient to reject the hypothesis.

Ho2: The evidence is insufficient to reject the hypothesis.

Ho3: The evidence is insufficient to reject the hypothesis.

Test 4 - for mean differences between two age categories and four levels of education exhibited by alumni participants.

Null hypotheses for Factor 3, Scale 1, Test 4:

Ho1: There is no significant difference between the mean scores for two age groups of alumni influenced by: A Desire to Serve Others Through Intellectual Pursuits.

Ho2: There is no significant difference between mean scores for four educational levels of alumni influenced by: A Desire to Serve Others Through Intellectual Pursuits.

Ho3: There is no interaction between alumni age groups and educational levels influenced by: A Desire to Serve Others Through Intellectual Pursuits.

Results of Test 4:

Ho1: The evidence is insufficient to reject the hypothesis.

Ho2: The evidence is insufficient to reject the hypothesis.

Ho3: The evidence is insufficient to reject the hypothesis.

Test 5 - for mean differences between two alumni age groups and three community population categories.

Null hypotheses for Factor 3, Scale 1, Test 5:

Ho1: There is no significant difference between the mean scores for two age groups of alumni influenced by: A Desire to Serve Others Through Intellectual Pursuits.

Ho2: There is no significant difference between the means for alumni residing in three communities of different size and influenced by: A Desire to Serve Others Through Intellectual Pursuits.



Ho3: There is no interaction between two alumni age groups and three community sizes influenced by: A Desire to Serve Others Through Intellectual Pursuits.

Results of Test 5:

Ho1: The evidence is insufficient to reject the hypothesis.

Ho2: The evidence is insufficient to reject the hypothesis.

Ho3: The evidence is insufficient to reject the hypothesis.

Test 6 - for mean differences between alumni represented by four educational levels and residing in three community population categories.

Null hypotheses for Factor 3, Scale 1, Test 6:

Ho1: There is no significant difference between the mean scores for alumni represented by four educational levels and influenced by: A Desire to Serve Others Through Intellectual Pursuits.

Ho2: There is no significant difference between the mean scores for alumni residing in three communities of different size and influenced by: A Desire to Serve Others Through Intellectual Pursuits.

Ho3: There is no interaction between alumni represented by four educational levels and residing in three communities of different size and influenced by: A Desire to Serve Others Through Intellectual Pursuits.

Results of Test 6:

Ho1: The evidence is insufficient to reject the hypothesis.

Ho2: The evidence is insufficient to reject the hypothesis.

Ho3: The evidence is insufficient to reject the hypothesis.

Test 7 - for mean differences between men and women and frequency of participation in the alumni seminars.

Null hypotheses for Factor 3, Scale 1, Test 7:

Ho1: There is no significant difference between the mean scores for men and women participants influenced by: A Desire to Serve Others Through Intellectual Pursuits.

Ho2: There is no significant difference in frequency of participation in the alumni seminars as influenced by: A Desire to Serve Others Through Intellectual Pursuits.

Ho3: There is no interaction between men and women and the frequency of participation in the seminars as influenced by: A Desire to Serve Others Through Intellectual Pursuits.

Results of Test 7:

Ho1: The evidence is insufficient to reject the hypothesis.

Ho2: The evidence is insufficient to reject the hypothesis.

Ho3: The evidence is insufficient to reject the hypothesis.

Test 8 - for mean differences between two age categories and frequency of participation in the alumni seminars.

Null hypotheses for Factor 3, Scale 1, Test 8:

Ho1: There is no significant difference between the mean scores for two age groups of alumni influenced by: A Desire to Serve Others Through Intellectual Pursuits.

Ho2: There is no significant difference between mean scores for frequency of participation in the alumni seminars as influenced by: A Desire to Serve Others Through Intellectual Pursuits.

Ho3: There is no interaction between two age groups and frequency of participation in the alumni seminars as influenced by: A Desire to Serve Others Through Intellectual Pursuits.

Results of Test 8:

Ho1: The evidence is insufficient to reject the hypothesis.

Ho2: The evidence is insufficient to reject the hypothesis.

Ho3: The evidence is insufficient to reject the hypothesis.

Test 9 - for mean differences between four educational levels and frequency of participation in the alumni seminars.

Null hypotheses for Factor 3, Scale 1, Test 9:

Ho1: There is no significant difference between the mean scores for four educational levels of alumni influenced by: A Desire to Serve Others Through Intellectual Pursuits.

Ho2: There is no significant difference between the mean scores for frequency of participation in the alumni seminars as influenced by: A Desire to Serve Others Through Intellectual Pursuits.

Ho3: There is no interaction between the mean scores for educational level and frequency of participation in the alumni seminars as influenced by: A Desire to Serve Others Through Intellectual Pursuits.

Results of Test 9:

Ho1: The evidence is insufficient to reject the hypothesis.

Ho2: The evidence is insufficient to reject the hypothesis.

Ho3: The evidence is insufficient to reject the hypothesis.

Test 10 - for mean differences between three community population categories and frequency of participation in the alumni seminars.

Null hypotheses for Factor 3, Scale 1, Test 10:

- Ho1: There is no significant difference between mean scores for three community population categories as influenced by: A Desire to Serve Others Through Intellectual Pursuits.
- Ho2: There is no significant difference between mean scores for frequency of participation in the alumni seminars as influenced by: A Desire to Serve Others Through Intellectual Pursuits.
- Ho3: There is no interaction between means scores for three community population categories and frequency of participation in the alumni seminars as influenced by: A Desire to Serve Others Through Intellectual Pursuits.

Results of Test 10:

- Ho1: The evidence is insufficient to reject the hypothesis.
- Ho2: The evidence is insufficient to reject the hypothesis.
- Ho3: The evidence is insufficient to reject the hypothesis.

Test 11 - for mean differences between four periods of graduation from Iowa State University and frequency of participation in the alumni seminars.

Null hypotheses for Factor 3, Scale 1, Test 11:

- Ho1: There is no significant difference between mean scores for four different periods of graduation from Iowa State University as influenced by: A Desire to Serve Others Through Intellectual Pursuits.

Ho2: There is no significant difference between mean scores for frequency of participation in the alumni seminars as influenced by: A Desire to Serve Others Through Intellectual Pursuits.

Ho3: There is no interaction between four different periods of graduation from Iowa State University and frequency of participation in the alumni seminars as influenced by: A Desire to Serve Others Through Intellectual Pursuits.

Results of Test 11:

Ho1: The evidence is insufficient to reject the hypothesis.

Ho2: The evidence is insufficient to reject the hypothesis.

Ho3: The evidence is insufficient to reject the hypothesis.

Test 12 - for mean differences between six undergraduate majors and frequency of participation in the alumni seminars.

Null hypotheses for Factor 3, Scale 1, Test 12:

Ho1: There is no significant difference between the means for six undergraduate major classifications as influenced by: A Desire to Serve Others Through Intellectual Pursuits.

Ho2: There is no significant difference between the means for frequency of participation in the alumni seminars and the influence by: A Desire to Serve Others Through Intellectual Pursuits.

Ho3: There is no interaction between the six undergraduate major classifications and frequency of participants in the alumni seminars as influenced by: A Desire to Serve Others Through Intellectual Pursuits.

Results of Test 12:

Ho1: The evidence is insufficient to reject the hypothesis.

Ho2: The evidence is insufficient to reject the hypothesis.

Ho3: The evidence is insufficient to reject the hypothesis.

Factor 3 - A Desire to Serve Others Through Intellectual Pursuits

Scale 2 (Satisfaction received from participation) results from analysis of variance tests.

Test 1 - for mean differences between men and women participants according to two age classifications.

Null hypotheses for Factor 3, Scale 2, Test 1:

Ho1: There is no significant difference between the mean scores for men and women participants influenced by: A Desire to Serve Others Through Intellectual Pursuits.

Ho2: There is no significant difference between the mean scores for two age groups of alumni influenced by: A Desire to Serve Others Through Intellectual Pursuits.

Ho3: There is no interaction between men and women participants in two age groups influenced by: A Desire to Serve Others Through Intellectual Pursuits.

Results of Test 1:

Ho1: The evidence is insufficient to reject the hypothesis.

Ho2: The evidence is insufficient to reject the hypothesis.

Ho3: The evidence is insufficient to reject the hypothesis.

Test 2 - for mean differences between men and women participants according to four levels of education.

Null hypotheses for Factor 3, Scale 2, Test 2:

- Ho1: There is no significant difference between mean scores for men and women participants influenced by: A Desire to Serve Others Through Intellectual Pursuits.
- Ho2: There is no significant difference between mean scores for four educational levels of alumni influenced by: A Desire to Serve Others Through Intellectual Pursuits.
- Ho3: There is no interaction between men and women participants in four educational levels influenced by: A Desire to Serve Others Through Intellectual Pursuits.

Table 29. Analysis of variance of the statements for Scale 2 scores (Satisfaction achieved) from Factor 3 (A Desire to Serve Others Through Intellectual Pursuits) for alumni participants classified according to sex and educational level

Source of variance	Degrees of freedom	Sum of squares	Mean squares	F
Sex	1	68566	68566	7.54**
Educational level	3	34268	11423	1.26
Sex X educational level	3	26247	8749	0.96
Error	279	2491358	.9093	

\*\* Highly significant at the .01 level,  $F_{.01}(1,279) = 6.73$ .

Results of Test 2:

- Ho1: is rejected, there is a highly significant difference between the mean scores for men and women participants influenced by: A Desire to Serve Others Through Intellectual Pursuits. Mean for men is 50.5 and the mean for women is 66.3.
- Ho2: The evidence is insufficient to reject the hypothesis.
- Ho3: The evidence is insufficient to reject the hypothesis.

Test 3 - for mean differences between men and women participants according to three community population categories.

## Null hypotheses for Factor 3, Scale 2, Test 3:

- Ho1: There is no significant difference between the mean scores for men and women participants influenced by: A Desire to Serve Others Through Intellectual Pursuits.
- Ho2: There is no significant difference between mean scores for alumni residing in three communities of different size and influenced by: A Desire to Serve Others Through Intellectual Pursuits.
- Ho3: There is no interaction between men and women participants residing in three communities of different size and influenced by: A Desire to Serve Others Through Intellectual Pursuits.

Results of Test 3:

- Ho1: is rejected, there is a significant difference between the mean scores for men and women participants influenced by: A Desire to Serve Others Through Intellectual Pursuits. Mean for men is 55.2 and the mean for women is 61.6.
- Ho2: The evidence is insufficient to reject the hypothesis.
- Ho3: The evidence is insufficient to reject the hypothesis.



Table 30. Analysis of variance of the statements for Scale 2 scores (Satisfaction achieved) from Factor 3 (A Desire to Serve Others Through Intellectual Pursuits) for alumni participants classified according to sex and community size

Source of variance	Degrees of freedom	Sum of squares	Mean squares	F
Sex	1	50052	50052	5.52*
Community size	2	9157	4579	0.50
Sex X community size	2	5946	2973	0.33
Error	281	2500983	9062	

\* Significant at the .05 level,  $F .05 (1,281) = 3.87$ .

Test 4 - for mean differences between two age categories and four levels of education exhibited by the alumni participants.

Null hypotheses for Factor 3, Scale 2, Test 4:

Ho1: There is no significant difference between the mean scores for two age groups of alumni influenced by: A Desire to Serve Others Through Intellectual Pursuits.

Ho2: There is no significant difference between mean scores for four educational levels of alumni influenced by: A Desire to Serve Others Through Intellectual Pursuits.

Ho3: There is no interaction between two alumni age groups and educational level as influenced by: A Desire to Serve Others Through Intellectual Pursuits.

Results of Test 4:

- Ho1: The evidence is insufficient to reject the hypothesis.
- Ho2: The evidence is insufficient to reject the hypothesis.
- Ho3: The evidence is insufficient to reject the hypothesis.

Test 5 - for mean differences between two alumni age groups and three community population categories.

Null hypotheses for Factor 3, Scale 2, Test 5:

- Ho1: There is no significant difference between the mean scores for two age groups of alumni influenced by: A Desire to Serve Others Through Intellectual Pursuits.
- Ho2: There is no significant difference between the mean scores for alumni residing in three communities of different size as influenced by: A Desire to Serve Others Through Intellectual Pursuits.
- Ho3: There is no interaction between the two alumni age groups and three community sizes as influenced by: A Desire to Serve Others Through Intellectual Pursuits.

Results of Test 5:

- Ho1: The evidence is insufficient to reject the hypothesis.
- Ho2: The evidence is insufficient to reject the hypothesis.
- Ho3: The evidence is insufficient to reject the hypothesis.

Test 6 - for mean differences between alumni represented by four educational levels and residing in three community population categories.

Null hypotheses for Factor 3, Scale 2, Test 6:

Ho1: There is no significant difference between the mean scores for alumni represented by four educational levels and influenced by: A Desire to Serve Others Through Intellectual Pursuits.

Ho2: There is no significant difference between the mean scores for alumni residing in three communities of different size and influenced by: A Desire to Serve Others Through Intellectual Pursuits.

Ho3: There is no interaction between alumni represented by four educational levels and residing in three communities of different size as influenced by: A Desire to Serve Others Through Intellectual Pursuits.

Results of Test 6:

Ho1: The evidence is insufficient to reject the hypothesis.

Ho2: The evidence is insufficient to reject the hypothesis.

Ho3: The evidence is insufficient to reject the hypothesis.

Test 7 - for mean differences between men and women and frequency of participation in the alumni seminars.

Null hypotheses for Factor 3, Scale 2, Test 7:

Ho1: There is no significant difference between the mean scores for men and women participants influenced by: A Desire to Serve Others Through Intellectual Pursuits.

Ho2: There is no significant difference in frequency of participation in the alumni seminars as influenced by: A Desire to Serve Others Through Intellectual Pursuits.

Ho3: There is no interaction between men and women and the frequency of participation in the seminars as influenced by: A Desire to Serve Others Through Intellectual Pursuits.

Results of Test 7:

- Ho1: The evidence is insufficient to reject the hypothesis.
- Ho2: The evidence is insufficient to reject the hypothesis.
- Ho3: The evidence is insufficient to reject the hypothesis.

Test 8 - for mean differences between two age categories and frequency of participation in the alumni seminars.

Null hypotheses for Factor 3, Scale 2, Test 8:

- Ho1: There is no significant difference between the mean scores for two age groups of alumni influenced by: A Desire to Serve Others Through Intellectual Pursuits.
- Ho2: There is no significant difference in mean scores for frequency of participation in the alumni seminars as influenced by: A Desire to Serve Others Through Intellectual Pursuits.
- Ho3: There is no interaction between two age groups and frequency of participation in the alumni seminars and the influence by: A Desire to Serve Others Through Intellectual Pursuits.
- Ho3: There is no interaction between two age groups and frequency of participation in the alumni seminars and the influence by: A Desire to Serve Others Through Intellectual Pursuits.

Results of Test 8:

- Ho1: is rejected, there is a highly significant difference between the mean scores for the two age categories of alumni as influenced by: A Desire to Serve Others Through Intellectual Pursuits. Mean for participants under 45 years of age is 61.1. Mean for participants over 46 years of age is 56.2.
- Ho2: The evidence is insufficient to reject the hypothesis.
- Ho3: The evidence is insufficient to reject the hypothesis.

Table 31. Analysis of variance of the statements for Scale 2 (Satisfaction achieved) from Factor 3 (A Desire to Serve Others Through Intellectual Pursuits) for alumni participants classified according to age and number of programs attended

Source of variance	Degrees of freedom	Sum of squares	Mean squares	F
Age	1	94077	94077	10.46**
Number of programs attended	2	12868	6434	0.72
Age X number of programs attended	2	57127	28563	3.17
Error	281	2481374	8990	

\*\* Highly significant at the .01 level,  $F_{.01}(1,281) = 6.73$ .

Test 9 - for mean differences between four educational levels and frequency of participation in the alumni seminars.

Null hypotheses for Factor 3, Scale 2, Test 9:

Ho1: There is no significant difference between the mean scores for four educational levels of alumni influenced by: A Desire to Serve Others Through Intellectual Pursuits.

Ho2: There is no significant difference between the mean scores for frequency of participation in the alumni seminars as influenced by: A Desire to Serve Others Through Intellectual Pursuits.

Ho3: There is no interaction between the mean scores for educational level and frequency of participation in the alumni seminars as influenced by: A Desire to Serve Others Through Intellectual Pursuits.

Results of Test 9:

- Ho1: The evidence is insufficient to reject the hypothesis.
- Ho2: The evidence is insufficient to reject the hypothesis.
- Ho3: The evidence is insufficient to reject the hypothesis.

Test 10 - for mean differences between three community population categories and frequency of participation in the alumni seminars.

## Null hypotheses for Factor 3, Scale 2, Test 10:

- Ho1: There is no significant difference between mean scores for three community population categories as influenced by: A Desire to Serve Others Through Intellectual Pursuits.
- Ho2: There is no significant difference between mean scores for frequency of participation in the alumni seminars as influenced by: A Desire to Serve Others Through Intellectual Pursuits.
- Ho3: There is no interaction between mean scores for three community population categories and frequency of participation in the alumni seminars as influenced by: A Desire to Serve Others Through Intellectual Pursuits.

Results of Test 10:

- Ho1: The evidence is insufficient to reject the hypothesis.
- Ho2: The evidence is insufficient to reject the hypothesis.
- Ho3: The evidence is insufficient to reject the hypothesis.

Test 11 - for mean differences between four periods of graduation from Iowa State University and frequency of participation in the alumni seminars.

Null hypotheses for Factor 3, Scale 2, Test 11:

- Ho1: There is no significant difference between mean scores for four different periods of graduation from Iowa State University as influenced by: A Desire to Serve Others Through Intellectual Pursuits.
- Ho2: There is no significant difference between mean scores for frequency of participation in the alumni seminars as influenced by: A Desire to Serve Others Through Intellectual Pursuits.
- Ho3: There is no interaction between four different periods of graduation from Iowa State University and frequency of participation in the alumni seminars and the influence by: A Desire to Serve Others Through Intellectual Pursuits.

Results of Test 11:

- Ho1: The evidence is insufficient to reject the hypothesis.
- Ho2: The evidence is insufficient to reject the hypothesis.
- Ho3: The evidence is insufficient to reject the hypothesis.

Test 12 - for mean differences between six undergraduate majors and frequency of participation in the alumni seminars.

Null hypotheses for Factor 3, Scale 2, Test 12:

- Ho1: There is no significant difference between the mean scores for six undergraduate major classifications as influenced by: A Desire to Serve Others Through Intellectual Pursuits.

Ho2: There is no significant difference between the mean scores for frequency of participation in the alumni seminars as influenced by: A Desire to Serve Others Through Intellectual Pursuits.

Ho3: There is no interaction between the six undergraduate major classifications and frequency of participation in the alumni seminars as influenced by: A Desire to Serve Others Through Intellectual Pursuits.

Results of Test 12:

Ho1: The evidence is insufficient to reject the hypothesis.

Ho2: The evidence is insufficient to reject the hypothesis.

Ho3: The evidence is insufficient to reject the hypothesis.

Factor 4 - A Desire to Enjoy Congenial People and the University

Scale 1 (Reasons influencing participation) results from analysis of variance tests.

Test 1 - for mean differences between men and women participants according to two age classifications.

Null hypotheses for Factor 4, Scale 1, Test 1:

Ho1: There is no significant difference between the mean scores for men and women participants influenced by: A Desire to Enjoy Congenial People and the University.

Ho2: There is no significant difference between the mean scores for men and women participants influenced by: A Desire to Enjoy Congenial People and the University.

Ho3: There is no interaction between men and women participants in two age groups influenced by: A Desire to Enjoy Congenial People and the University.



Results of Test 1:

- Ho1: The evidence is insufficient to reject the hypothesis.
- Ho2: The evidence is insufficient to reject the hypothesis.
- Ho3: The evidence is insufficient to reject the hypothesis.

Test 2 - for mean differences between men and women participants according to four levels of education.

Null hypotheses for Factor 4, Scale 1, Test 2:

- Ho1: There is no significant difference between the mean scores for men and women participants influenced by: A Desire to Enjoy Congenial People and the University.
- Ho2: There is no significant difference between mean scores for four educational levels of alumni influenced by: A Desire to Enjoy Congenial People and the University.
- Ho3: There is no interaction between men and women participants in four educational levels influenced by: A Desire to Enjoy Congenial People and the University.

Results of Test 2:

- Ho1: The evidence is insufficient to reject the hypothesis.
- Ho2: The evidence is insufficient to reject the hypothesis.
- Ho3: The evidence is insufficient to reject the hypothesis.

Test 3 - for mean differences between men and women participants residing in three community population categories.

Null hypotheses for Factor 4, Scale 1, Test 3:

- Ho1: There is no significant difference between the mean scores for men and women participants influenced by: A Desire to Enjoy Congenial People and the University.
- Ho2: There is no significant difference between mean scores for alumni residing in three communities of different size as influenced by: A Desire to Enjoy Congenial People and the University.
- Ho3: There is no interaction between men and women participants residing in three communities of different size and influenced by: A Desire to Enjoy Congenial People and the University.

Results of Test 3:

- Ho1: The evidence is insufficient to reject the hypothesis.
- Ho2: The evidence is insufficient to reject the hypothesis.
- Ho3: The evidence is insufficient to reject the hypothesis.

Test 4 - for mean differences between two age categories and four levels of education exhibited by the alumni participants.

Null hypotheses for Factor 4, Scale 1, Test 4:

- Ho1: There is no significant difference between the mean scores for two age groups of alumni influenced by: A Desire to Enjoy Congenial People and the University.
- Ho2: There is no significant difference between mean scores for four educational levels of alumni influenced by: A Desire to Enjoy Congenial People and the University.
- Ho3: There is no interaction between alumni age groups and educational levels influenced by: A Desire to Enjoy Congenial People and the University.

Results of Test 4:

- Ho1: The evidence is insufficient to reject the hypothesis.
- Ho2: The evidence is insufficient to reject the hypothesis.
- Ho3: The evidence is insufficient to reject the hypothesis.

Test 5 - for mean differences between two alumni age groups and three community population categories.

Null hypotheses for Factor 4, Scale 1, Test 5:

- Ho1: There is no significant difference between the mean scores for two age groups of alumni influenced by: A Desire to Enjoy Congenial People and the University.
- Ho2: There is no significant difference between the means for alumni residing in three communities of different size and influenced by: A Desire to Enjoy Congenial People and the University.
- Ho3: There is no interaction between the two alumni age groups and three community sizes influenced by: A Desire to Enjoy Congenial People and the University.

Results of Test 5:

- Ho1: The evidence is insufficient to reject the hypothesis.
- Ho2: The evidence is insufficient to reject the hypothesis.
- Ho3: The evidence is insufficient to reject the hypothesis.

Test 6 - for mean differences between alumni represented by four educational levels and residing in three community population categories.

Null hypotheses for Factor 4, Scale 1, Test 6:

- Ho1: There is no significant difference between the mean scores for alumni represented by four educational levels and influenced by: A Desire to Enjoy Congenial People and the University.
- Ho2: There is no significant difference between the mean scores for alumni residing in three communities of different size and influenced by: A Desire to Enjoy Congenial People and the University.
- Ho3: There is no interaction between alumni represented by four educational levels and residing in three communities of different size and influenced by: A Desire to Enjoy Congenial People and the University.

Results of Test 6:

- Ho1: The evidence is insufficient to reject the hypothesis.
- Ho2: The evidence is insufficient to reject the hypothesis.
- Ho3: The evidence is insufficient to reject the hypothesis.

Test 7 - for mean differences between men and women and frequency of participation in the alumni seminars.

Null hypotheses for Factor 4, Scale 1, Test 7:

- Ho1: There is no significant difference between the mean scores for men and women participants influenced by: A Desire to Enjoy Congenial People and the University.
- Ho2: There is no significant difference in frequency of participation in the alumni seminars and the influence by: A Desire to Enjoy Congenial People and the University.
- Ho3: There is no interaction between men and women and the frequency of participation in the seminars as influenced by: A Desire to Enjoy Congenial People and the University.

Results of Test 7:

- Ho1: The evidence is insufficient to reject the hypothesis.
- Ho2: The evidence is insufficient to reject the hypothesis.
- Ho3: The evidence is insufficient to reject the hypothesis.

Test 8 - for mean differences between two age categories and frequency of participation in the alumni seminars.

Null hypotheses for Factor 4, Scale 1, Test 8:

- Ho1: There is no significant difference between the mean scores for two age groups of alumni influenced by: A Desire to Enjoy Congenial People and the University.
- Ho2: There is no significant difference between mean scores for frequency of participation in the alumni seminars as influenced by: A Desire to Enjoy Congenial People and the University.
- Ho3: There is no interaction between two age groups and frequency of participation in the alumni seminars as influenced by: A Desire to Enjoy Congenial People and the University.

Results of Test 8:

- Ho1: The evidence is insufficient to reject the hypothesis.
- Ho2: The evidence is insufficient to reject the hypothesis.
- Ho3: The evidence is insufficient to reject the hypothesis.

Test 9 - for mean differences between four educational levels and frequency of participation in the alumni seminars.

Null hypotheses for Factor 4, Scale 1, Test 9:

- Ho1: There is no significant difference between the mean scores for four educational levels of alumni influenced by: A Desire to Enjoy Congenial People and the University.
- Ho2: There is no significant difference between the mean scores for frequency of participation in the alumni seminars as influenced by: A Desire to Enjoy Congenial People and the University.
- Ho3: There is no interaction between the mean scores for educational level and frequency of participation in the alumni seminars as influenced by: A Desire to Enjoy Congenial People and the University.

Results of Test 9:

- Ho1: The evidence is insufficient to reject the hypothesis.
- Ho2: The evidence is insufficient to reject the hypothesis.
- Ho3: The evidence is insufficient to reject the hypothesis.

Test 10 - for mean differences between three community population categories and frequency of participation in the alumni seminars.

Null hypotheses for Factor 4, Scale 1, Test 10:

- Ho1: There is no significant difference between mean scores for three community population categories as influenced by: A Desire to Enjoy Congenial People and the University.
- Ho2: There is no significant difference between mean scores for frequency of participation in the alumni seminars as influenced by: A Desire to Enjoy Congenial People and the University.
- Ho3: There is no interaction between mean scores for three community population categories and frequency of participation in the alumni seminars as influenced by: A Desire to Enjoy Congenial People and the University.

Results of Test 10:

- Ho1: The evidence is insufficient to reject the hypothesis.
- Ho2: The evidence is insufficient to reject the hypothesis.
- Ho3: The evidence is insufficient to reject the hypothesis.

Test 11 - for mean differences between four periods of graduation from Iowa State University and frequency of participation in the alumni seminars.

Null hypotheses for Factor 4, Scale 1, Test 11:

- Ho1: There is no significant difference between mean scores for four different periods of graduation from Iowa State University as influenced by: A Desire to Enjoy Congenial People and the University.
- Ho2: There is no significant difference between mean scores for frequency of participation in the alumni seminars as influenced by: A Desire to Enjoy Congenial People and the University.
- Ho3: There is no interaction between four different periods of graduation from Iowa State University and frequency of participation in the alumni seminars as influenced by: A Desire to Enjoy Congenial People and the University.

Results of Test 11:

- Ho1: The evidence is insufficient to reject the hypothesis.
- Ho2: The evidence is insufficient to reject the hypothesis.
- Ho3: The evidence is insufficient to reject the hypothesis.

Test 12 - for mean differences between six undergraduate majors and frequency of participation in the alumni seminars.

Null hypotheses for Factor 4, Scale 1, Test 12:

- Ho1: There is no significant difference between the means for six undergraduate major classifications as influenced by: A Desire to Enjoy Congenial People and the University.
- Ho2: There is no significant difference between the means for frequency of participation in the alumni seminars as influenced by: A Desire to Enjoy Congenial People and the University.
- Ho3: There is no interaction between the six undergraduate major classifications and frequency of participation in the alumni seminars as influenced by: A Desire to Enjoy Congenial People and the University.

Results of Test 12:

- Ho1: The evidence is insufficient to reject the hypothesis.
- Ho2: The evidence is insufficient to reject the hypothesis.
- Ho3: The evidence is insufficient to reject the hypothesis.

Factor 4 - A Desire to Enjoy Congenial People and the University

Scale 2 (Satisfaction received from participation) results from analysis of variance tests.

Test 1 - for mean differences between men and women participants according to two age classifications.

Null hypotheses for Factor 4, Scale 2, Test 1:



Ho1: There is no significant difference between the means scores for men and women participants influenced by: A Desire to Enjoy Congenial People and the University.

Ho2: There is no significant difference between the mean scores for two age groups of alumni influenced by: A Desire to Enjoy Congenial People and the University.

Ho3: There is no interaction between men and women participants in two age groups influenced by: A Desire to Enjoy Congenial People and the University.

Results of Test 1:

Ho1: The evidence is insufficient to reject the hypothesis.

Ho2: The evidence is insufficient to reject the hypothesis.

Ho3: The evidence is insufficient to reject the hypothesis.

Test 2 - for mean differences between men and women participants according to four levels of education.

Null hypotheses for Factor 4, Scale 2, Test 2:

Ho1: There is no significant difference between mean scores for men and women participants influenced by: A Desire to Enjoy Congenial People and the University.

Ho2: There is no significant difference between mean scores for four educational levels of alumni influenced by: A Desire to Enjoy Congenial People and the University.

Ho3: There is no interaction between men and women participants in four educational levels influenced by: A Desire to Enjoy Congenial People and the University.

Results of Test 2:

- Ho1: The evidence is insufficient to reject the hypothesis.
- Ho2: The evidence is insufficient to reject the hypothesis.
- Ho3: The evidence is insufficient to reject the hypothesis.

Test 3 - for mean differences between men and women participants residing in three community population categories.

## Null hypotheses for Factor 4, Scale 2, Test 3:

- Ho1: There is no significant difference between the mean scores for men and women participants influenced by: A Desire to Enjoy Congenial People and the University.
- Ho2: There is no significant difference between mean scores for alumni residing in three communities of different size as influenced by: A Desire to Enjoy Congenial People and the University.
- Ho3: There is no interaction between men and women participants residing in three communities of different size as influenced by: A Desire to Enjoy Congenial People and the University.

Results of Test 3:

- Ho1: The evidence is insufficient to reject the hypothesis.
- Ho2: The evidence is insufficient to reject the hypothesis.
- Ho3: The evidence is insufficient to reject the hypothesis.

Test 4 - for mean differences between two age categories and four levels of education exhibited by the alumni participants.

Null hypothesis Factor 4, Scale 2, Test 4:

- Ho1: There is no significant difference between the mean scores for two age groups of alumni influenced by: A Desire to Enjoy Congenial People and the University.
- Ho2: There is no significant difference between mean scores for four educational levels of alumni influenced by: A Desire to Enjoy Congenial People and the University.
- Ho3: There is no interaction between alumni age groups and educational level as influenced by: A Desire to Enjoy Congenial People and the University.

Results of Test 4:

- Ho1: The evidence is insufficient to reject the hypothesis.
- Ho2: The evidence is insufficient to reject the hypothesis.
- Ho3: The evidence is insufficient to reject the hypothesis.

Test 5 - for mean differences between two alumni age groups and three community population categories.

Null hypotheses for Factor 4, Scale 2, Test 5:

- Ho1: There is no significant difference between the mean scores for two age groups of alumni influenced by: A Desire to Enjoy Congenial People and the University.
- Ho2: There is no significant difference between the mean scores for alumni residing in three communities of different size as influenced by: A Desire to Enjoy Congenial People and the University.
- Ho3: There is no interaction between the two alumni age groups and three community sizes influenced by: A Desire to Enjoy Congenial People and the University.

Results of Test 5:

- Ho1: The evidence is insufficient to reject the hypothesis.
- Ho2: The evidence is insufficient to reject the hypothesis.
- Ho3: The evidence is insufficient to reject the hypothesis.

Test 6 - for mean differences between alumni represented by four educational levels and residing in three community population categories.

## Null hypotheses for Factor 4, Scale 2, Test 6:

- Ho1: There is no significant difference between the mean scores for alumni represented by four educational levels and influenced by: A Desire to Enjoy Congenial People and the University.
- Ho2: There is no significant difference between the mean scores for alumni residing in three communities of different size and influenced by: A Desire to Enjoy Congenial People and the University.
- Ho3: There is no interaction between alumni represented by four educational levels and residing in three communities of different size as influenced by: A Desire to Enjoy Congenial People and the University.

Results of Test 6:

- Ho1: The evidence is insufficient to reject the hypothesis.
- Ho2: The evidence is insufficient to reject the hypothesis.
- Ho3: The evidence is insufficient to reject the hypothesis.

Test 7 - for mean differences between men and women and frequency of participation in the alumni seminars.

Null hypotheses for Factor 4, Scale 2, Test 7:

H01: There is no significant difference between the mean scores for men and women participants influenced by: A Desire to Enjoy Congenial People and the University.

H02: There is no significant difference in frequency of participation in the alumni seminars as influenced by: A Desire to Enjoy Congenial People and the University.

H03: There is no interaction between men and women and the frequency of participation in the seminars as influenced by: A Desire to Enjoy Congenial People and the University.

Results of Test 7:

H01: The evidence is insufficient to reject the hypothesis.

H02: The evidence is insufficient to reject the hypothesis.

H03: The evidence is insufficient to reject the hypothesis.

Test 8 - for mean differences between two age categories and frequency of participation in the alumni seminars.

Null hypotheses for Factor 4, Scale 2, Test 8:

H01: There is no significant difference between the mean scores for two age groups of alumni influenced by: A Desire to Enjoy Congenial People and the University.

H02: There is no significant difference in mean scores for frequency of participation in the alumni seminars as influenced by: A Desire to Enjoy Congenial People and the University.

Ho3: There is no interaction between two age groups and frequency of participation in the alumni seminars as influenced by: A Desire to Enjoy Congenial People and the University.

Results of Test 8:

Ho1: is rejected, there is a significant difference between the mean scores for the two age categories of alumni as influenced by: A Desire to Enjoy Congenial People and the University. Mean for participants under 45 years of age is 62.1. Mean for participants over 46 years of age is 60.0.

Ho2: The evidence is insufficient to reject the hypothesis.

Ho3: is rejected, there is a highly significant interaction between the two age groups and frequency of participation in the alumni seminars and the influence by: A Desire to Enjoy Congenial People and the University.

Table 32. Analysis of variance of the statements for Scale 2 scores (Satisfaction received) from Factor 4 (A Desire to Enjoy Congenial People and the University) for alumni participants classified according to age and number of programs attended

Source of variance	Degrees of freedom	Sum of squares	Mean squares	F
Age	1	197238	197238	6.15*
Number of programs attended	2	224121	112061	3.50
Age X number of programs attended	2	371188	185594	5.79**
Error	281	8845736	32049	

\* Significant at the .05 level,  $F .05 (1,281) = 387$ .

\*\* Highly significant at the .01 level,  $F .01 (2,281) = 4.69$ .

Test 9 - for mean differences between four educational levels and frequency of participation in the alumni seminars.

Null hypotheses for Factor 4, Scale 2, Test 9:

- Ho1: There is no significant difference between the mean scores for four educational levels of alumni influenced by: A Desire to Enjoy Congenial People and the University.
- Ho2: There is no significant difference between the mean scores for frequency of participation in the alumni seminars as influenced by: A Desire to Enjoy Congenial People and the University.
- Ho3: There is no interaction between the mean scores for educational level and frequency of participation in the alumni seminars as influenced by: A Desire to Enjoy Congenial People and the University.

Results of Test 9:

- Ho1: The evidence is insufficient to reject the hypothesis.
- Ho2: The evidence is insufficient to reject the hypothesis.
- Ho3: The evidence is insufficient to reject the hypothesis.

Test 10 - for mean differences between three community population categories and frequency of participation in the alumni seminars.

Null hypotheses for Factor 4, Scale 2, Test 10:

- Ho1: There is no significant difference between mean scores for three community population categories as influenced by: A Desire to Enjoy Congenial People and the University.
- Ho2: There is no significant difference between mean scores for frequency of participation in the alumni seminars as influenced by: A Desire to Enjoy Congenial People and the University.

Ho3: There is no interaction between mean scores for three community population categories and frequency of participation in the alumni seminars as influenced by: A Desire to Enjoy Congenial People and the University.

Results of Test 10:

Ho1: The evidence is insufficient to reject the hypothesis.

Ho2: The evidence is insufficient to reject the hypothesis.

Ho3: The evidence is insufficient to reject the hypothesis.

Test 11 - for mean differences between four periods of graduation from Iowa State University and frequency of participation in the alumni seminars.

Null hypotheses for Factor 4, Scale 2, Test 11:

Ho1: There is no significant difference between mean scores for four different periods of graduation from Iowa State University as influenced by: A Desire to Enjoy Congenial People and the University.

Ho2: There is no significant difference between mean scores for frequency of participation in the alumni seminars as influenced by: A Desire to Enjoy Congenial People and the University.

Ho3: There is no interaction between four different periods of graduation from Iowa State University and frequency of participation in the alumni seminars as influenced by: A Desire to Enjoy Congenial People and the University.

Results of Test 11:

Ho1: The evidence is insufficient to reject the hypothesis.

Ho2: The evidence is insufficient to reject the hypothesis.



Ho3: The evidence is insufficient to reject the hypothesis.

Test 12 - for mean differences between six undergraduate majors and frequency of participation in the alumni seminars.

Null hypotheses for Factor 4, Scale 2, Test 12:

Ho1: There is no significant difference between the mean scores for six undergraduate major classifications as influenced by: A Desire to Enjoy Congenial People and the University.

Ho2: There is no significant difference between the mean scores for frequency of participation in the alumni seminars as influenced by: A Desire to Enjoy Congenial People and the University.

Ho3: There is no interaction between the six undergraduate major classifications and frequency of participation in the alumni seminars as influenced by: A Desire to Enjoy Congenial People and the University.

Table 33. Analysis of variance of the statements for Scale 2 scores (Satisfaction received) from Factor 4 (A Desire to Enjoy Congenial People and the University) for alumni participants classified according to undergraduate major and number of programs attended

Source of variance	Degrees of freedom	Sum of squares	Mean squares	F
Undergraduate major	6	494500	82417	2.53*
Number of programs attended	2	4296	2148	0.07
Undergraduate major X number of programs attended	12	285988	28599	0.88
Error	266	8570632	32588	

\* Significant at the .05 level,  $F .05 (6,266) = 2.13$ .

Results of Test 12:

Ho1: is rejected, there is a significant difference between the mean scores for the six undergraduate major classifications and the influence by: A Desire to Enjoy Congenial People and the University. Table 34 shows the means for the six undergraduate majors listed in order of magnitude.

Table 34. Means for seminar participants representing six academic majors and degree of satisfaction received from Factor 4

Academic major	Factor 4 mean
Engineering	53.2
Science and Humanities	58.4
Veterinary Medicine	62.6
Agriculture	63.6
Home Economics	64.1
Education	65.9

Ho2: The evidence is insufficient to reject the hypothesis.

Ho3: The evidence is insufficient to reject the hypothesis.

Factor 5 - A Desire to Broaden a Narrow Education

Scale 1 (Reasons influencing participation) results from analysis of variance tests.

Test 1 - for mean differences between men and women participants according to two age classifications.

Null hypotheses for Factor 5, Scale 1, Test 1:

- Ho1: There is no significant difference between the mean scores for men and women participants influenced by: A Desire to Broaden a Narrow Education.
- Ho2: There is no significant difference between the mean scores for two age groups of alumni influenced by: A Desire to Broaden a Narrow Education.
- Ho3: There is no interaction between men and women participants in two age groups influenced by: A Desire to Broaden a Narrow Education.

Results of Test 1:

- Ho1: The evidence is insufficient to reject the hypothesis.
- Ho2: The evidence is insufficient to reject the hypothesis.
- Ho3: The evidence is insufficient to reject the hypothesis.

Test 2 - for mean differences between men and women participants according to four levels of education.

Null hypotheses for Factor 5, Scale 1, Test 2:

- Ho1: There is no significant difference between the mean scores for men and women participants influenced by: A Desire to Broaden a Narrow Education.
- Ho2: There is no significant difference between mean scores for four educational levels of alumni influenced by: A Desire to Broaden a Narrow Education.
- Ho3: There is no interaction between men and women participants in four educational levels influenced by: A Desire to Broaden a Narrow Education.

Table 35. Analysis of variance of the statements for Scale 1 scores (Reasons influencing participation) from Factor 5 (A Desire to Broaden a Narrow Education) for alumni participants classified according to sex and educational level

Source of variance	Degrees of freedom	Sum of squares	Mean squares	F
Sex	1	214	214	0.08
Educational level	3	41100	13700	5.11**
Sex X educational level	3	4508	1503	0.56
Error	279	734090	2679	

\*\* Highly significant at the .01 level,  $F_{.01}(3,279) = 3.85$ .

#### Results of Test 2:

H<sub>01</sub>: The evidence is insufficient to reject the hypothesis.

H<sub>02</sub>: is rejected, there is a highly significant difference between the mean scores for four educational levels of alumni influenced by: A Desire to Broaden a Narrow Education. Table 36 shows the means for each of the educational levels.

Table 36. Means for seminar participants represented by four educational levels and degree that Factor 5 influenced participation

Educational level	Factor 5 means
High school graduate but less than college graduate	32
College graduate	23
College graduate plus graduate courses	22
Masters degree and higher	23

Ho3: The evidence is insufficient to reject the hypothesis.

Test 3 - for mean differences between men and women participants according to three community population categories.

Null hypotheses for Factor 5, Scale 1, Test 3:

Ho1: There is no significant difference between the mean scores for men and women participants influenced by: A Desire to Broaden a Narrow Education.

Ho2: There is no significant difference between mean scores for alumni residing in three communities of different size as influenced by: A Desire to Broaden a Narrow Education.

Ho3: There is no interaction between men and women participants residing in three communities of different size and influenced by: A Desire to Broaden a Narrow Education.

Results of Test 3:

Ho1: The evidence is insufficient to reject the hypothesis.

Ho2: The evidence is insufficient to reject the hypothesis.

Ho3: The evidence is insufficient to reject the hypothesis.

Test 4 - for mean differences between two age categories and four levels of education exhibited by the alumni participants.

Null hypotheses for Factor 5, Scale 1, Test 4:

Ho1: There is no significant difference between the mean scores for two age groups of alumni influenced by: A Desire to Broaden a Narrow Education.

Ho2: There is no significant difference between mean scores for four educational levels of alumni influenced by: A Desire to Broaden a Narrow Education.

Ho3: There is no interaction between alumni age groups and educational levels influenced by: A Desire to Broaden a Narrow Education.

Table 37. Analysis of variance of the statements for Scale 1 scores (reasons influencing participation) from Factor 5 (A Desire to Broaden a Narrow Education) for alumni participants classified according to age and education level

Source of variance	Degrees of freedom	Sum of squares	Mean squares	F
Age	1	937	937	0.35
Educational level	3	29618	9873	3.67*
Age X educational level	3	3420	1140	0.42
Error	279	736547	2688	

\* Significant at the .05 level,  $F .05 (3,279) = 2.64$ .

#### Results of Test 4:

Ho1: The evidence is insufficient to reject the hypothesis.

Ho2: is rejected, there is a significant difference between the mean scores for four educational levels of alumni influenced by: A Desire to Broaden a Narrow Education. Table 38 shows the means for each of the educational levels.

Ho3: The evidence is insufficient to reject the hypothesis.

Table 38. Test and means for seminar participants represented by four educational levels and degree that Factor 5 influenced participation

Educational level	Factor 5 mean
High school graduate but less than college graduate	32
College graduate	23
College graduate plus graduate courses	22
Masters degree and higher	23

Test 5 - for mean differences between two alumni age groups and three community population categories.

Null hypotheses for Factor 5, Scale 1, Test 5:

- Ho1: There is no significant difference between the mean scores for two age groups of alumni influenced by: A Desire to Broaden a Narrow Education.
- Ho2: There is no significant difference between the means for alumni residing in three communities of different size and influenced by: A Desire to Broaden a Narrow Education.
- Ho3: There is no interaction between two alumni age groups and three community sizes influenced by: A Desire to Broaden a Narrow Education.

Results of Test 5:

- Ho1: The evidence is insufficient to reject the hypothesis.
- Ho2: The evidence is insufficient to reject the hypothesis.

Ho3: The evidence is insufficient to reject the hypothesis.

Test 6 - for mean differences between the mean scores for alumni represented by four educational levels and influenced by: A Desire to Broaden a Narrow Education.

Null hypotheses for Factor 5, Scale 1, Test 6:

Ho1: There is no significant difference between the mean scores for alumni represented by four educational levels and influenced by: A Desire to Broaden a Narrow Education.

Ho2: There is no significant difference between the mean scores for alumni residing in three communities of different size and influenced by: A Desire to Broaden a Narrow Education.

Ho3: There is no interaction between alumni represented by four educational levels and residing in three communities of different size and influenced by: A Desire to Broaden a Narrow Education.

Results of Test 6:

Ho1: The evidence is insufficient to reject the hypothesis.

Ho2: The evidence is insufficient to reject the hypothesis.

Ho3: The evidence is insufficient to reject the hypothesis.

Test 7 - for mean differences between men and women and frequency of participation in the alumni seminars.

Null hypotheses for Factor 5, Scale 1, Test 7:

Ho1: There is no significant difference between the mean scores for men and women participants influenced by: A Desire to Broaden a Narrow Education.



- Ho2: There is no significant difference in frequency of participation in the alumni seminars as influenced by: A Desire to Broaden a Narrow Education.
- Ho3: There is no interaction between men and women and the frequency of participation in the seminars as influenced by: A Desire to Broaden a Narrow Education.

Results of Test 7:

- Ho1: The evidence is insufficient to reject the hypothesis.
- Ho2: The evidence is insufficient to reject the hypothesis.
- Ho3: The evidence is insufficient to reject the hypothesis.

Test 8 - for mean differences between two age categories and frequency of participation in the alumni seminars.

Null hypotheses for Factor 5, Scale 1, Test 8:

- Ho1: There is no significant difference between the mean scores for two age groups of alumni influenced by: A Desire to Broaden a Narrow Education.
- Ho2: There is no significant difference between mean scores for frequency of participation in the alumni seminars as influenced by: A Desire to Broaden a Narrow Education.
- Ho3: There is no interaction between two age groups and frequency of participation in the alumni seminars as influenced by: A Desire to Broaden a Narrow Education.

Results of Test 8:

- Ho1: The evidence is insufficient to reject the hypothesis.
- Ho2: The evidence is insufficient to reject the hypothesis.

Ho3: The evidence is insufficient to reject the hypothesis.

Test 9 - for mean differences between four educational levels and frequency of participation in the alumni seminars.

Null hypotheses for Factor 5, Scale 1, Test 9:

Ho1: There is no significant difference between the mean scores for four educational levels of alumni influenced by: A Desire to Broaden a Narrow Education.

Ho2: There is no significant difference between the mean scores for frequency of participation in the alumni seminars as influenced by: A Desire to Broaden a Narrow Education.

Ho3: There is no interaction between the mean scores for educational level and frequency of participation in the alumni seminars as influenced by: A Desire to Broaden a Narrow Education.

Results of Test 9:

Ho1: The evidence is insufficient to reject the hypothesis.

Ho2: The evidence is insufficient to reject the hypothesis.

Ho3: The evidence is insufficient to reject the hypothesis.

Test 10 - for mean differences between three community population categories and frequency of participation in the alumni seminars.

Null hypotheses for Factor 5, Scale 1, Test 10:

Ho1: There is no significant difference between mean scores for three community population categories as influenced by: A Desire to Broaden a Narrow Education.

Ho2: There is no significant difference between mean scores for frequency of participation in the alumni seminars as influenced by: A Desire to Broaden a Narrow Education.

Ho3: There is no interaction between mean scores for three community population categories and frequency of participation in the alumni seminars as influenced by: A Desire to Broaden a Narrow Education.

Results of Test 10:

Ho1: The evidence is insufficient to reject the hypothesis.

Ho2: The evidence is insufficient to reject the hypothesis.

Ho3: The evidence is insufficient to reject the hypothesis.

Test 11 - for mean differences between four periods of graduation from Iowa State University and frequency of participation in the alumni seminars.

Null hypotheses for Factor 5, Scale 1, Test 11:

Ho1: There is no significant difference between mean scores for four different periods of graduation from Iowa State University as influenced by: A Desire to Broaden a Narrow Education.

Ho2: There is no significant difference between mean scores for frequency of participation in the alumni seminars as influenced by: A Desire to Broaden a Narrow Education.

Ho3: There is no interaction between four different periods of graduation from Iowa State University and frequency of participation in the alumni seminars as influenced by: A Desire to Broaden a Narrow Education.

Results of Test 11:

- Ho1: The evidence is insufficient to reject the hypothesis.
- Ho2: The evidence is insufficient to reject the hypothesis.
- Ho3: The evidence is insufficient to reject the hypothesis.

Test 12 - for mean differences between six undergraduate majors and frequency of participation in the alumni seminars.

Null hypothesis for Factor 5, Scale 1, Test 12:

- Ho1: There is no significant difference between the means for six undergraduate major classifications as influenced by: A Desire to Broaden a Narrow Education.
- Ho2: There is no significant difference between the means for frequency of participation in the alumni seminars as influenced by: A Desire to Broaden a Narrow Education.
- Ho3: There is no interaction between the six undergraduate major classifications and frequency of participation in the alumni seminars as influenced by: A Desire to Broaden a Narrow Education.

Results of Test 12:

- Ho1: The evidence is insufficient to reject the hypothesis.
- Ho2: The evidence is insufficient to reject the hypothesis.
- Ho3: The evidence is insufficient to reject the hypothesis.

Factor 5 - A Desire to Broaden a Narrow Education

Scale 2 (Satisfaction achieved from participation)

results from analysis of variance tests.

Test 1 - for mean differences between men and women participants according to two age classifications.

Null hypotheses for Factor 5, Scale 2, Test 1:

Ho1: There is no significant difference between the mean scores for men and women participants influenced by: A Desire to Broaden a Narrow Education.

Ho2: There is no significant difference between the mean scores for two age groups of alumni influenced by: A Desire to Broaden a Narrow Education.

Ho3: There is no interaction between men and women participants in two age groups influenced by: A Desire to Broaden a Narrow Education.

Results of Test 1:

Ho1: The evidence is insufficient to reject the hypothesis.

Ho2: The evidence is insufficient to reject the hypothesis.

Ho3: The evidence is insufficient to reject the hypothesis.

Test 2 - for mean differences between men and women participants according to four levels of education.

Null hypotheses for Factor 5, Scale 2, Test 2:

Ho1: There is no significant difference between mean scores for men and women participants influenced by: A Desire to Broaden a Narrow Education.

- Ho2: There is no significant difference between mean scores for four educational levels of alumni influenced by: A Desire to Broaden a Narrow Education.
- Ho3: There is no interaction between men and women participants in four educational levels influenced by: A Desire to Broaden a Narrow Education.

Table 39. Analysis of variance of the statements for Scale 2 scores (satisfaction achieved) from Factor 5 (A Desire to Broaden a Narrow Education) for alumni participants classified according to sex and educational level.

Source of variance	Degrees of freedom	Sum of squares	Mean squares	F
Sex	1	14334	14334	5.65*
Educational level	3	26794	8931	3.52*
Sex X educational level	3	20275	6758	2.66
Error	279	694842	2536	

\* Significant at the .05 level,  $F .05 (1,279) = 3.87$ ,  $F .05 (3,279) = 2.67$ .

Results of Test 2:

- Ho1: is rejected, there is a significant difference between the mean scores for men and women. Mean for men is 42 and the mean for women is 48.
- Ho2: is rejected, there is a significant difference between mean scores for four educational levels of alumni influenced by: A Desire to Broaden a Narrow Education. Table 40 shows the means for each of the educational levels.
- Ho3: The evidence is insufficient to reject the hypothesis.

Table 40. Test 2 means for seminar participants represented by four educational levels and degree of satisfaction received from Factor 5

Educational level	Factor 5 means
High school graduate but less than college graduate	56
College graduate	42
College graduate plus graduate courses	41
Masters degree and higher	42

Test 3 - for mean differences between men and women participants according to three community population categories.

Null hypotheses for Factor 5, Scale 2, Test 3:

- Ho1: There is no significant difference between the mean scores for men and women participants influenced by: A Desire to Broaden a Narrow Education.
- Ho2: There is no significant difference between mean scores for alumni residing in three communities of different size and influenced by: A Desire to Broaden a Narrow Education.
- Ho3: There is no interaction between men and women participants residing in three communities of different size and influenced by: A Desire to Broaden a Narrow Education.

Results of Test 3:

- Ho1: is rejected, there is a significant difference between the mean scores for men and women. Mean for men is 42 and mean for women is 48.

Ho2: The evidence is insufficient to reject the hypothesis.

Ho3: The evidence is insufficient to reject the hypothesis.

Table 41. Analysis of variance of the statements for Scale 2 scores (satisfaction received) from Factor 5 (A Desire to Broaden a Narrow Education) for alumni participants classified according to sex and community size

Source of variance	Degrees of freedom	Sum of squares	Mean squares	F
Sex	1	12689	12689	4.86*
Community size	2	7705	3852	1.48
Sex X community size	2	2662	1231	0.51
Error	281	719711	2608	

\* Significant at the .05 level,  $F .05 (1,281) = 3.87$ .

Ho2: The evidence is insufficient to reject the hypothesis.

Ho3: The evidence is insufficient to reject the hypothesis.

Test 4 - for mean differences between two age categories and four levels of education exhibited by the alumni participants.

Null hypotheses for Factor 5, Scale 2, Test 4:



- Ho1: There is no significant difference between the mean scores for two age groups of alumni influenced by: A Desire to Broaden a Narrow Education.
- Ho2: There is no significant difference between mean scores for four educational levels of alumni influenced by: A Desire to Broaden a Narrow Education.
- Ho3: There is no interaction between two alumni age groups and four educational levels as influenced by: A Desire to Broaden a Narrow Education.

Results of Test 4:

- Ho1: The evidence is insufficient to reject the hypothesis.
- Ho2: The evidence is insufficient to reject the hypothesis.
- Ho3: The evidence is insufficient to reject the hypothesis.

Test 5 - for mean differences between two alumni age groups and three community population categories.

Null hypotheses for Factor 5, Scale 2, Test 5:

- Ho1: There is no significant difference between the mean scores for two age groups of alumni influenced by: A Desire to Broaden a Narrow Education.
- Ho2: There is no significant difference between the mean scores for alumni residing in three communities of different size as influenced by: A Desire to Broaden a Narrow Education.
- Ho3: There is no interaction between the two alumni age groups and three community sizes influenced by: A Desire to Broaden a Narrow Education.

Results of Test 5:

- Ho1: The evidence is insufficient to reject the hypothesis.

Ho2: The evidence is insufficient to reject the hypothesis.

Ho3: The evidence is insufficient to reject the hypothesis.

Test 6 - for mean differences between alumni represented by four educational levels and residing in three community population categories.

Null hypotheses for Factor 5, Scale 2, Test 6:

Ho1: There is no significant difference between the mean scores for alumni represented by four educational levels and influenced by: A Desire to Broaden a Narrow Education.

Ho2: There is no significant difference between the mean scores for alumni residing in three communities of different size and influenced by: A Desire to Broaden a Narrow Education.

Ho3: There is no interaction between alumni represented by four educational levels and residing in three communities of different size and influenced by: A Desire to Broaden a Narrow Education.

Results of Test 6:

Ho1: The evidence is insufficient to reject the hypothesis.

Ho2: The evidence is insufficient to reject the hypothesis.

Ho3: The evidence is insufficient to reject the hypothesis.

Test 7 - for mean differences between men and women and frequency of participation in the alumni seminars.

Null hypotheses for Factor 5, Scale 2, Test 7:

- Ho1: There is no significant difference between the mean scores for men and women participants influenced by: A Desire to Broaden a Narrow Education.
- Ho2: There is no significant difference in frequency of participation in the alumni seminars as influenced by: A Desire to Broaden a Narrow Education.
- Ho3: There is no interaction between men and women and the frequency of participation in the seminars as influenced by: A Desire to Broaden a Narrow Education.

Results of Test 7:

- Ho1: The evidence is insufficient to reject the hypothesis.
- Ho2: The evidence is insufficient to reject the hypothesis.
- Ho3: The evidence is insufficient to reject the hypothesis.

Test 8 - for mean differences between two age categories and frequency of participation in the alumni seminars.

Null hypotheses for Factor 5, Scale 2, Test 8:

- Ho1: There is no significant difference between the mean scores for two age groups of alumni influenced by: A Desire to Broaden a Narrow Education.
- Ho2: There is no significant difference in mean scores for frequency of participation in the alumni seminars as influenced by: A Desire to Broaden a Narrow Education.
- Ho3: There is no interaction between two age groups and frequency of participation in the alumni seminars as influenced by: A Desire to Broaden a Narrow Education.

Results of Test 8:

- Ho1: The evidence is insufficient to reject the hypothesis.
- Ho2: The evidence is insufficient to reject the hypothesis.
- Ho3: The evidence is insufficient to reject the hypothesis.

Test 9 - for mean differences between four educational levels and frequency of participation in the alumni seminars.

Null hypotheses for Factor 5, Scale 2, Test 9:

- Ho1: There is no significant difference between the mean scores for four educational levels of alumni influenced by: A Desire to Broaden a Narrow Education.
- Ho2: There is no significant difference between the mean scores for frequency of participation in the alumni seminars as influenced by: A Desire to Broaden a Narrow Education.
- Ho3: There is no interaction between the mean scores for educational level and frequency of participation in the alumni seminars as influenced by: A Desire to Broaden a Narrow Education.

Results of Test 9:

- Ho1: The evidence is insufficient to reject the hypothesis.
- Ho2: The evidence is insufficient to reject the hypothesis.
- Ho3: The evidence is insufficient to reject the hypothesis.

Test 10 - for mean differences between three community population categories and frequency of participation in the alumni seminars.

Null hypotheses for Factor 5, Scale 2, Test 10:

- Ho1: There is no significant difference between mean scores for three community population categories as influenced by: A Desire to Broaden a Narrow Education.
- Ho2: There is no significant difference between mean scores for frequency of participation in the alumni seminars as influenced by: A Desire to Broaden a Narrow Education.
- Ho3: There is no interaction between mean scores for three community population categories and frequency of participation in the alumni seminars as influenced by: A Desire to Broaden a Narrow Education.

Results of Test 10:

- Ho1: The evidence is insufficient to reject the hypothesis.
- Ho2: The evidence is insufficient to reject the hypothesis.
- Ho3: The evidence is insufficient to reject the hypothesis.

Test 11 - for mean differences between four periods of graduation from Iowa State University and frequency of participation in the alumni seminars.

Null hypotheses for Factor 5, Scale 2, Test 11:

- Ho1: There is no significant difference between mean scores for four different periods of graduation from Iowa State University as influenced by: A Desire to Broaden a Narrow Education.
- Ho2: There is no significant difference between mean scores for frequency of participation in the alumni seminars as influenced by: A Desire to Broaden a Narrow Education.

Ho3: There is no interaction between four different periods of graduation from Iowa State University and frequency of participation in the alumni seminars as influenced by: A Desire to Broaden a Narrow Education.

Results of Test 11:

Ho1: The evidence is insufficient to reject the hypothesis.

Ho2: The evidence is insufficient to reject the hypothesis.

Ho3: The evidence is insufficient to reject the hypothesis.

Test 12 - for mean differences between six undergraduate majors and frequency of participation in the alumni seminars.

Null hypotheses for Factor 5, Scale 2, Test 12:

Ho1: There is no significant difference between the mean scores for six undergraduate major classifications as influenced by: A Desire to Broaden a Narrow Education.

Ho2: There is no significant difference between the mean scores for frequency of participation in the alumni seminars as influenced by: A Desire to Broaden a Narrow Education.

Ho3: There is no interaction between the six undergraduate major classifications and frequency of participation in the alumni seminars as influenced by: A Desire to Broaden a Narrow Education.

Results of Test 12:

Ho1: The evidence is insufficient to reject the hypothesis.

Ho2: The evidence is insufficient to reject the hypothesis.

Ho3: The evidence is insufficient to reject the hypothesis.

Factor 6 - A Desire to Share Intellectually with Spouse

Scale 1 (Reasons influencing participation) results from analysis of variance tests.

Test 1 - for mean differences between men and women participants according to two age classifications.

Null hypotheses for Factor 6, Scale 1, Test 1:

Ho1: There is no significant difference between the mean scores for men and women participants influenced by: A Desire to Share Intellectually with Spouse.

Ho2: There is no significant difference between the mean scores for two age groups of alumni influenced by: A Desire to Share Intellectually with Spouse.

Ho3: There is no interaction between men and women participants in two age groups influenced by: A Desire to Share Intellectually with Spouse.

Table 42. Analysis of variance of the statements for Scale 1 scores (reasons influencing participation) from Factor 6 (A Desire to Share Intellectually with Spouse) for alumni participants classified according to sex and age

Source of variance	Degrees of freedom	Sum of squares	Mean squares	F
Sex	1	11221	11221	5.06*
Age	1	1192	1192	0.54
Sex X age	1	1110	1110	0.50
Error	283	616915	2219	

\* Significant at the .05 level,  $F_{.05}(1,283) = 3.87$ .

Results of Test 1:

- Ho1: is rejected, there is a significant difference between the mean scores for men and women. Mean for men is 61 and the mean for women is 68.
- Ho2: The evidence is insufficient to reject the hypothesis.
- Ho3: The evidence is insufficient to reject the hypothesis.

Test 2 - for mean differences between men and women participants according to four levels of education.

Null hypotheses for Factor 6, Scale 1, Test 2:

- Ho1: There is no significant difference between the mean scores for men and women participants influenced by: A Desire to Share Intellectually with Spouse.
- Ho2: There is no significant difference between mean scores for four educational levels of alumni influenced by: A Desire to Share Intellectually with Spouse.
- Ho3: There is no interaction between men and women participants in four educational levels influenced by: A Desire to Share Intellectually with Spouse.

Results of Test 2:

- Ho1: The evidence is insufficient to reject the hypothesis.
- Ho2: The evidence is insufficient to reject the hypothesis.
- Ho3: The evidence is insufficient to reject the hypothesis.

Test 3 - for mean differences between men and women participants residing in three community population categories.

Null hypotheses for Factor 6, Scale 1, Test 3:



- Ho1: There is no significant difference between the mean scores for men and women participants influenced by: A Desire to Share Intellectually with Spouse.
- Ho2: There is no significant difference between mean scores for alumni residing in three communities of different size as influenced by: A Desire to Share Intellectually with Spouse.
- Ho3: There is no interaction between men and women participants residing in three communities of different size and influenced by: A Desire to Share Intellectually with Spouse.

Table 43. Analysis of variance of the statements for Scale 1 scores (reasons for influencing participation) from Factor 6 (A Desire to Share Intellectually with Spouse) for alumni participants classified according to sex and community size

Source of variance	Degrees of freedom	Sum of squares	Mean squares	F
Sex	1	13760	13760	6.22*
Community size	2	5669	2835	1.28
Sex X community size	2	2657	1328	0.60
Error	281	609770	2209	

\* Significant at the .05 level,  $F_{.05}(1,281) = 3.87$ .

Results of Test 3:

- Ho1: is rejected, there is a significant difference between the mean scores for men and women. Mean for men is 61 and the mean for women is 68.
- Ho2: The evidence is insufficient to reject the hypothesis.
- Ho3: The evidence is insufficient to reject the hypothesis.

Test 4 - for mean differences between two age categories and four levels of education exhibited by the alumni participants.

Null hypotheses for Factor 6, Scale 1, Test 4:

- Ho1: There is no significant difference between the mean scores for two age groups of alumni influenced by: A Desire to Share Intellectually with Spouse.
- Ho2: There is no significant difference between mean scores for four educational levels of alumni influenced by: A Desire to Share Intellectually with Spouse.
- Ho3: There is no interaction between alumni age groups and educational levels influenced by: A Desire to Share Intellectually with Spouse.

Results of Test 4:

- Ho1: The evidence is insufficient to reject the hypothesis.
- Ho2: The evidence is insufficient to reject the hypothesis.
- Ho3: The evidence is insufficient to reject the hypothesis.

Test 5 - for mean differences between two alumni age groups and three community population categories.

Null hypothesis for Factor 6, Scale 1, Test 5:

- Ho1: There is no significant difference between the mean scores for two age groups of alumni influenced by: A Desire to Share Intellectually with Spouse.
- Ho2: There is no significant difference between the means for alumni residing in three communities of different size and influenced by: A Desire to Share Intellectually with Spouse.

Ho3: There is no interaction between two alumni age groups and three community sizes influenced by: A Desire to Share Intellectually with Spouse.

Results of Test 5:

Ho1: The evidence is insufficient to reject the hypothesis.

Ho2: The evidence is insufficient to reject the hypothesis.

Ho3: The evidence is insufficient to reject the hypothesis.

Test 6 - for mean differences between alumni represented by four educational levels and residing in three community population categories.

Null hypotheses for Factor 6, Scale 1, Test 6:

Ho1: There is no significant difference between the mean scores for alumni represented by four educational levels and influenced by: A Desire to Share Intellectually with Spouse.

Ho2: There is no significant difference between the mean scores for alumni residing in three communities of different size and influenced by: A Desire to Share Intellectually with Spouse.

Ho3: There is no interaction between alumni represented by four educational levels and residing in three communities of different size as influenced by: A Desire to Share Intellectually with Spouse.

Results of Test 6:

Ho1: The evidence is insufficient to reject the hypothesis.

Ho2: The evidence is insufficient to reject the hypothesis.

Ho3: The evidence is insufficient to reject the hypothesis.

Test 7 - for mean differences between men and women and frequency of participation in the alumni seminars.

Null hypotheses for Factor 6, Scale 1, Test 7:

Ho1: There is no significant difference between the mean scores for men and women participants influenced by: A Desire to Share Intellectually with Spouse.

Ho2: There is no significant difference in frequency of participation in the alumni seminars as influenced by: A Desire to Share Intellectually with Spouse.

Ho3: There is no interaction between men and women and the frequency of participation in the seminars as influenced by: A Desire to Share Intellectually with Spouse.

Table 44. Analysis of variance of the statements for Scale 1 scores (reasons influencing participation) from Factor 6 (A Desire to Share Intellectually with Spouse) for alumni participants classified according to sex and number of program attended

Source of variance	Degrees of freedom	Sum of squares	Mean squares	F
Sex	1	11587	11587	5.28*
Number of programs attended	2	4954	2477	1.12
Sex X number of programs attended	2	3903	1951	0.88
Error	281	606269	2197	

\* Significant at the .05 level,  $F .05 (1,281) = 3.87$ .

Results of Test 7:

Ho1: is rejected, there is a significant difference between the mean scores for men and women. The mean for men is 61 and the mean for women is 68.

Ho2: The evidence is insufficient to reject the hypothesis.

Ho3: The evidence is insufficient to reject the hypothesis.

Test 8 - for mean differences between two age categories and frequency of participation in the alumni seminars.

Null hypotheses for Factor 6, Scale 1, Test 8:

Ho1: There is no significant difference between the mean scores for two age groups of alumni influenced by: A Desire to Share Intellectually with Spouse.

Ho2: There is no significant difference between mean scores for frequency of participation in the alumni seminars as influenced by: A Desire to Share Intellectually with Spouse.

Ho3: There is no interaction between two age groups and frequency of participation in the alumni seminars as influenced by: A Desire to Share Intellectually with Spouse.

Results of Test 8:

Ho1: The evidence is insufficient to reject the hypothesis.

Ho2: The evidence is insufficient to reject the hypothesis.

Ho3: The evidence is insufficient to reject the hypothesis.

Test 9 - for mean differences between four educational levels and frequency of participation in the alumni seminars.

Null hypotheses for Factor 6, Scale 1, Test 9:

Ho1: There is no significant difference between the mean scores for four educational levels of alumni influenced by: A Desire to Share Intellectually with Spouse.

- Ho2: There is no significant difference between the mean scores for frequency of participation in the alumni seminars as influenced by: A Desire to Share Intellectually with Spouse.
- Ho3: There is no interaction between the mean scores for educational level and frequency of participation in the alumni seminars as influenced by: A Desire to Share Intellectually with Spouse.

Results of Test 9:

- Ho1: The evidence is insufficient to reject the hypothesis.
- Ho2: The evidence is insufficient to reject the hypothesis.
- Ho3: The evidence is insufficient to reject the hypothesis.

Test 10 - for mean differences between three community population categories and frequency of participation in the alumni seminars.

Null hypotheses for Factor 6, Scale 1, Test 10:

- Ho1: There is no significant difference between mean scores for three community population categories as influenced by: A Desire to Share Intellectually with Spouse.
- Ho2: There is no significant difference between mean scores for frequency of participation in the alumni seminars as influenced by: A Desire to Share Intellectually with Spouse.
- Ho3: There is no interaction between means scores for three community population categories and frequency of participation in the alumni seminars as influenced by: A Desire to Share Intellectually with Spouse.

Table 45. Analysis of variance of the statements for Scale 1 scores (reasons influencing participation) from Factor 6 (A Desire to Share Intellectually with Spouse) for alumni participants classified according to size of community and number of programs attended

Source of variance	Degrees of freedom	Sum of squares	Mean squares	F
Size of community	1	2295	1148	0.52
Number of programs attended	2	17013	8507	3.82*
Size of community X number of programs attended	4	7453	1863	0.84
Error	278	607606	2226	

\* Significant at the .05 level,  $F_{.05}(2,278) = 3.03$ .

#### Results of Test 10:

Ho1: The evidence is insufficient to reject the hypothesis.

Ho2: is rejected, there is a significant difference in the mean scores for frequency of participation in the alumni seminars. The mean for alumni who have participated in one seminar is 62.8, mean for alumni who have participated in two seminars is 69.8, and mean for alumni who have participated in three or more seminars is 67.2.

Ho3: The evidence is insufficient to reject the hypothesis.

Test 11 - for mean differences between four periods of graduation from Iowa State University and frequency of participation in the alumni seminars.

Null hypotheses for Factor 6, Scale 1, Test 11:

- Ho1: There is no significant difference between mean scores for four different periods of graduation from Iowa State University as influenced by: A Desire to Share Intellectually with Spouse.
- Ho2: There is no significant difference between mean scores for frequency of participation in the alumni seminars as influenced by: A Desire to Share Intellectually with Spouse.
- Ho3: There is no interaction between four different periods of graduation from Iowa State University and frequency of participation in the alumni seminars as influenced by: A Desire to Share Intellectually with Spouse.

Results of Test 11:

- Ho1: The evidence is insufficient to reject the hypothesis.
- Ho2: The evidence is insufficient to reject the hypothesis.
- Ho3: The evidence is insufficient to reject the hypothesis.

Test 12 - for mean differences between six undergraduate majors and frequency of participation in the alumni seminars.

Null hypotheses for Factor 6, Scale 1, Test 12:

- Ho1: There is no significant difference between the means for six undergraduate major classifications as influenced by: A Desire to Share Intellectually with Spouse.
- Ho2: There is no significant difference between the means for frequency of participation in the alumni seminars as influenced by: A Desire to Share Intellectually with Spouse.
- Ho3: There is no interaction between the six undergraduate major classifications and frequency of participation in the alumni seminars as influenced by: A Desire to Share Intellectually with Spouse.



Results of Test 12:

- Ho1: The evidence is insufficient to reject the hypothesis.
- Ho2: The evidence is insufficient to reject the hypothesis.
- Ho3: The evidence is insufficient to reject the hypothesis.

Factor 6 - A Desire to Share Intellectually with SpouseScale 2 (Satisfaction received from participation)

results from analysis of variance tests.

Test 1 - for mean differences between men and women participants according to two age classifications.

Null hypotheses for Factor 6, Scale 2, Test 1:

- Ho1: There is no significant difference between the mean scores for men and women participants influenced by: A Desire to Share Intellectually with Spouse.
- Ho2: There is no significant difference between the mean scores for two age groups of alumni influenced by: A Desire to Share Intellectually with Spouse.
- Ho3: There is no interaction between men and women participants in two age groups influenced by: A Desire to Share Intellectually with Spouse.

Results of Test 1:

- Ho1: The evidence is insufficient to reject the hypothesis.
- Ho2: The evidence is insufficient to reject the hypothesis.
- Ho3: The evidence is insufficient to reject the hypothesis.

Test 2 - for mean differences between men and women participants according to four levels of education.

Null hypotheses for Factor 6, Scale 2, Test 2:

- Ho1: There is no significant difference between mean scores for men and women participants influenced by: A Desire to Share Intellectually with Spouse.
- Ho2: There is no significant difference between mean scores for four educational levels of alumni influenced by: A Desire to Share Intellectually with Spouse.
- Ho3: There is no interaction between men and women participants in four educational levels influenced by: A Desire to Share Intellectually with Spouse.

Results of Test 2:

- Ho1: The evidence is insufficient to reject the hypothesis.
- Ho2: The evidence is insufficient to reject the hypothesis.
- Ho3: The evidence is insufficient to reject the hypothesis.

Test 3 - for mean differences between men and women participants residing in three community population categories.

Null hypotheses for Factor 6, Scale 2, Test 3:

- Ho1: There is no significant difference between the mean scores for men and women participants influenced by: A Desire to Share Intellectually with Spouse.
- Ho2: There is no significant difference between mean scores for alumni residing in three communities of different size and influenced by: A Desire to Share Intellectually with Spouse.
- Ho3: There is no interaction between men and women participants residing in three communities of different size and influenced by: A Desire to Share Intellectually with Spouse.

Results of Test 3:

- Ho1: The evidence is insufficient to reject the hypothesis.
- Ho2: The evidence is insufficient to reject the hypothesis.
- Ho3: The evidence is insufficient to reject the hypothesis.

Test 4 - for mean differences between two age categories and four levels of education exhibited by the alumni participants.

## Null hypotheses for Factor 6, Scale 2, Test 4:

- Ho1: There is no significant difference between the mean scores for two age groups of alumni influenced by: A Desire to Share Intellectually with Spouse.
- Ho2: There is no significant difference between mean scores for four educational levels of alumni influenced by: A Desire to Share Intellectually with Spouse.
- Ho3: There is no interaction between alumni age groups and four educational levels as influenced by: A Desire to Share Intellectually with Spouse.

Results of Test 4:

- Ho1: The evidence is insufficient to reject the hypothesis.
- Ho2: The evidence is insufficient to reject the hypothesis.
- Ho3: The evidence is insufficient to reject the hypothesis.

Test 5 - for mean differences between two alumni age groups and three community population categories.

## Null hypotheses for Factor 6, Scale 2, Test 5:

- Ho1: There is no significant difference between the mean scores for two age groups of alumni influenced by: A Desire to Share Intellectually with Spouse.
- Ho2: There is no significant difference between the mean scores for alumni residing in three communities of different size as influenced by: A Desire to Share Intellectually with Spouse.
- Ho3: There is no interaction between two alumni age groups and three community sizes as influenced by: A Desire to Share Intellectually with Spouse.

Results of Test 5:

- Ho1: The evidence is insufficient to reject the hypothesis.
- Ho2: The evidence is insufficient to reject the hypothesis.
- Ho3: The evidence is insufficient to reject the hypothesis.

Test 6 - for mean differences between alumni represented by four educational levels and residing in three community population categories.

Null hypotheses for Factor 6, Scale 2, Test 6:

- Ho1: There is no significant difference between the mean scores for alumni represented by four educational levels and influenced by: A Desire to Share Intellectually with Spouse.
- Ho2: There is no significant difference between the mean scores for alumni residing in three communities of different size and influenced by: A Desire to Share Intellectually with Spouse.
- Ho3: There is no interaction between alumni represented by four educational levels and residing in three communities of different size and influenced by: A Desire to Share Intellectually with Spouse.

Results of Test 6:

- Ho1: The evidence is insufficient to reject the hypothesis.
- Ho2: The evidence is insufficient to reject the hypothesis.
- Ho3: The evidence is insufficient to reject the hypothesis.

Test 7 - for mean difference between men and women and frequency of participation in the alumni seminars.

Null hypotheses for Factor 6, Scale 2, Test 7:

- Ho1: There is no significant difference between the mean scores for men and women participants influenced by: A Desire to Share Intellectually with Spouse.
- Ho2: There is no significant difference in frequency of participation in the alumni seminars as influenced by: A Desire to Share Intellectually with Spouse.
- Ho3: There is no interaction between men and women and the frequency of participation in the seminars as influenced by: A Desire to Share Intellectually with Spouse.

Results of Test 7:

- Ho1: The evidence is insufficient to reject the hypothesis.
- Ho2: The evidence is insufficient to reject the hypothesis.
- Ho3: The evidence is insufficient to reject the hypothesis.

Test 8 - for mean differences between two age categories and frequency of participation in the alumni seminars.

Null hypotheses for Factor 6, Scale 2, Test 8:

- Ho1: There is no significant difference between the mean scores for two age groups of alumni influenced by: A Desire to Share Intellectually with Spouse.
- Ho2: There is no significant difference in mean scores for frequency of participation in the alumni seminars as influenced by: A Desire to Share Intellectually with Spouse.
- Ho3: There is no interaction between two age groups and frequency of participation in the alumni seminars as influenced by: A Desire to Share Intellectually with Spouse.

Results of Test 8:

- Ho1: The evidence is insufficient to reject the hypothesis.
- Ho2: The evidence is insufficient to reject the hypothesis.
- Ho3: The evidence is insufficient to reject the hypothesis.

Test 9 - for mean differences between four educational levels and frequency of participation in the alumni seminars.

Null hypotheses for Factor 6, Scale 2, Test 9:

- Ho1: There is no significant difference between the mean scores for four educational levels of alumni influenced by: A Desire to Share Intellectually with Spouse.
- Ho2: There is no significant difference between the mean scores for frequency of participation in the alumni seminars as influenced by: A Desire to Share Intellectually with Spouse.
- Ho3: There is no interaction between the mean scores for educational level and frequency of participation in the alumni seminars as influenced by: A Desire To Share Intellectually with Spouse.

Results of Test 9:

- Ho1: The evidence is insufficient to reject the hypothesis.
- Ho2: The evidence is insufficient to reject the hypothesis.
- Ho3: The evidence is insufficient to reject the hypothesis.

Test 10 - for mean differences between three community population categories and frequency of participation in the alumni seminars.

Null hypotheses for Factor 6, Scale 2, Test 10:

- Ho1: There is no significant difference between mean scores for three community population categories as influenced by: A Desire to Share Intellectually with Spouse.
- Ho2: There is no significant difference between mean scores for frequency of participation in the alumni seminars as influenced by: A Desire to Share Intellectually with Spouse.
- Ho3: There is no interaction between mean scores for three community population categories and frequency of participation in the alumni seminars as influenced by: A Desire to Share Intellectually with Spouse.

Results of Test 10:

- Ho1: The evidence is insufficient to reject the hypothesis.
- Ho2: The evidence is insufficient to reject the hypothesis.
- Ho3: The evidence is insufficient to reject the hypothesis.

Test 11 - for mean differences between four periods of graduation from Iowa State University and frequency of

participation in the alumni seminars.

Null hypotheses for Factor 6, Scale 2, Test 11:

- Ho1: There is no significant difference between mean scores for four different periods of graduation from Iowa State University as influenced by: A Desire to Share Intellectually with Spouse.
- Ho2: There is no significant difference between mean scores for frequency of participation in the alumni seminars as influenced by: A Desire to Share Intellectually with Spouse.
- Ho3: There is no interaction between four different periods of graduation from Iowa State University and frequency of participation in the alumni seminars as influenced by: A Desire to Share Intellectually with Spouse.

Results of Test 11:

- Ho1: The evidence is insufficient to reject the hypothesis.
- Ho2: The evidence is insufficient to reject the hypothesis.
- Ho3: The evidence is insufficient to reject the hypothesis.

Test 12 - for mean differences between six undergraduate majors and frequency of participation in the alumni seminars.

Null hypotheses for Factor 6, Scale 2, Test 12:

- Ho1: There is no significant difference between the mean scores for six undergraduate major classifications as influenced by: A Desire to Share Intellectually with Spouse.
- Ho2: There is no significant difference between the mean scores for frequency of participation in the alumni seminars as influenced by: A Desire to Share Intellectually with Spouse.



Ho3: There is no interaction between the six undergraduate major classifications and frequency of participation in the alumni seminars as influenced by: A Desire to Share Intellectually with Spouse.

Results of Test 12:

Ho1: The evidence is insufficient to reject the hypothesis.

Ho2: The evidence is insufficient to reject the hypothesis.

Ho3: The evidence is insufficient to reject the hypothesis.

As part of Section II, of the questionnaire, the respondents could add other reasons, not included in the list of fifty-eight, as contributing to participation. Thirty four respondents identified "other" reasons contributing to participation. Most of those identified, however, were similar and closely related to one or more of the fifty-eight listed statements such as; reunion with old friends; see what faculty thinks today; help improve understanding of others and their ideas; reaffirm belief in education; and to communicate with other people away from the atmosphere of earning a living. No further analysis of these statements was taken.

Frequency of Actions Taken by Respondents as a Result of Participation in the Iowa State University Alumni Seminars

Section III, of the survey instrument listed fourteen possible actions that participants in the seminars might have taken as a result of participation. These are actions that

might have had an influence on the participants themselves such as: re-reading the seminar materials or a desire to influence others by visiting about the topics and recommending the seminar materials to others.

The specific hypothesis to be tested was: Iowa State University Alumni Seminar participants who have participated in one or more of the alumni seminars will exhibit differential actions as a result of participation.

This hypothesis is supported as an analysis of the data reveals all of the fourteen actions listed were taken. The range reported was from eleven respondents who wrote articles for a newspaper, magazine or newsletter to 271 respondents who discussed and visited with others about the seminar topic(s). On a percentage basis, 94% of the respondents visited with others about the seminar topic(s) and 4% wrote articles.

Table 46 shows the fourteen actions ranked in order according to number of respondents taking the actions. Other columns indicate the percentage of respondents taking each actions - many took more than one, and the value of participation (very valuable or some value) as a contributing factor to each action.

#### Iowa State University Alumni Educational Needs

Non-Credit Subjects - Respondents were provided an opportunity to indicate educational needs both in academic credit courses and non-credit programs. Program definitions

Table 46. Positive actions taken by alumni seminar participants (N = 287)

Action taken	Number of respondents taking this action	Percentage of respondents taking this action	Value of seminar in contributing to this action	
			Very val	Some val
1. Visited with others about the topic(s)	271	94%	182	84
2. Read additional material related to the subject(s)	241	84%	105	125
3. Recommended seminar reading material to others	211	74%	108	98
4. Gave seminar reading material to a friend	161	56%	87	71
5. Persuaded others to read about the subject(s)	155	54%	72	76
6. Actively discussed an issue related to one or more of the seminar(s) from the floor at a meeting	146	51%	96	49
7. Used information gained from the seminar(s) in club program(s) - service club, church club, other.	140	49%	92	46
8. Re-read the seminar material	131	46%	65	62
9. Attended other meetings related to the seminar subject(s)	127	44%	54	67
10. Gave a speech to talk on the topic(s)	66	23%	43	23
11. Used information gained from the seminar(s) in teaching school students	53	19%	34	19
12. Enrolled in other courses concerned with the same or similar topics	26	9%	10	16
13. Joined or formed a new discussion group	22	8%	14	8
14. Wrote an article for newspaper, magazine, newsletter	11	4%	8	3

for six, non-credit subject areas were provided. Respondents were asked to check the strength of personal need in each of the subject areas. The six subject areas and definitions are:

Home and family living programs - include topics such as: information on use and buying home products, family finance (money management and planning), information on food and nutrition, family relations, estate planning.

Professional and skill growth programs - are concerned with improving and aiding one to be a "better" farmer, business manager, skilled technician, engineer, banker, etc...

Liberal education programs - aim at developing "man's mind" by encouraging "thought", fact finding and evaluating - examples would be: Great Books program and programs dealing with philosophical concepts (i.e., man's reason for being and his place in the universe.

Cultural programs included the fine arts and performing arts-fine art programs concerned with art and painting exhibitions, musical productions, sculpture etc.. performing art programs concerned with dance, ballet, drama, etc...

Local-national programs concerned with social, political and economic issues include: environmental problems (physical and ecological), influences of technology on society, changing educational patterns and needs, problems and alternatives relating to the financing of public services, impact of legislation on the individual and community, taxation and

community services.

International programs concerned with social, political and economic issues include area studies (world influence of China, Russia etc..), European common market impact on the USA, the world money market...

Table 47 shows the frequency of response for each of the six non-credit subject areas. It is interesting to note that among this group, 91% felt a definite need to take or participate in programs concerned with social, political and economic issues at the local and national level as opposed to 70% expressing a need for professional and skill growth programs.

Table 47. Educational needs in non-credit subjects

Subject area	Number of respondents indicating a definite or probable need for educational programs	Percentage of respondents
Local-national programs concerned with social, political and economic issues	261	91%
International programs concerned with social, political and economic issues	248	86%
Cultural programs	235	82%
Liberal education programs	236	82%
Home and family living programs	206	72%
Professional and skill growth programs	201	70%

Academic Credit Courses

Concerning the second part of this section, 140 respondents indicated need for academic credit courses. This need was expressed by writing in the desired subjects in the spaces provided on the survey instrument. Respondents could indicate course needs at both undergraduate and graduate level. The individual courses listed were sorted according to the conventional academic subdivisions of knowledge and training as used by the U.S. Department of Health, Education and Welfare (Office of Education). Table 48 shows the frequencies for undergraduate and graduate level credit courses as noted by the 140 respondents. A list of the specific subjects included in the Office of Education academic subdivision is shown in Appendix G.

Respondents were asked to indicate whether they had ever enrolled and attended a college or university credit course since leaving Iowa State University and to indicate the year of last enrollment. One hundred twelve (112) respondents indicated they had enrolled and attended a credit course since leaving Iowa State University. One hundred forty-five reported "no" to this question. For those respondents who had enrolled and attended a credit course since leaving Iowa State University, 13 indicated they had last participated between 1945 and 1950; 12 last participated between 1951 and 1956; 17 last participated between 1957 and 1962; 30 last participated

between 1963 and 1968 and 39 last participated between 1969 and 1971.

Table 48. Frequency of undergraduate and graduate credit course needs by participants in the Iowa State University Alumni seminars

Academic subdivisions	Frequency of credit courses:	
	Undergraduate	Graduate
Agriculture and Natural Resources	8	9
Architecture and Environmental Design	6	2
Area Studies	6	2
Biological Sciences	6	7
Business and Management	12	20
Communications	3	4
Computer and Information Sciences	3	3
Education	16	30
Engineering	6	4
Fine and Applied Art	12	7
Foreign Language	3	1
Health Professions	2	1
Home Economics	35	42
Law	2	3
Letters	21	17
Library Science	4	2
Mathematics	2	2
Physical Science	4	0
Psychology	7	13
Public Affairs and Services	1	0
Social Sciences	<u>22</u>	<u>39</u>
Total	181	208

## DISCUSSION

The purpose of this study was to identify the primary reasons associated with the influencing of Iowa State University alumni and their spouses to participate in a series of seminars concerned with public affairs and contemporary issues. The data reported were provided by 287 respondents who had participated in one or more of the alumni seminars. A self reporting questionnaire asked respondents to score a battery of 58 statements in reference to the degree of influence each statement played as a reason for participation. Respondents also scored the 58 statements in reference to the degree of satisfaction received from participation. This data, along with alumni selected characteristics, were factor analyzed and tested using multiple classification analysis of variance. Also, data were gathered concerning use of the information gained from attending the seminars and other educational needs of the alumni in this study.

The results of the analysis of the data indicated that participation in the Iowa State University alumni seminars was associated with six motivational dispositions and/or influencing reasons as follows:

- A Desire to be Intellectually Curious
- A Desire to Escape from Boredom Through Intellectual Pursuits
- A Desire to Serve Others Through Intellectual Pursuits



- A Desire to Enjoy Congenial People and the University
- A Desire to Broaden a Narrow Education
- A Desire to Share Intellectually with Spouse

These findings, plus results of the analysis of variance tests, on actions taken by participants as a result of participation, and identified educational needs of the alumni in this study, will be reported in eight sections of this chapter.

#### Factor 1 - A Desire to be Intellectually Curious

This factor, composed of seventeen statements, was an important influence or reason for participation in the seminars by the alumni and their spouses. The mean scores for each of the statements in this factor are significantly higher than the mean scores for statements composing the other five factors (Figure 7). The alumni participated in the seminars primarily because they wanted to: "probe topics of significance", "be engaged in mental stimulation" and "be challenged to think about public affairs and contemporary issues". A letter to the investigator from one of the participating couples stated it this way, "these seminars are important to us as they help us understand and become part of change rather than reacting to change".

The average of the means for the seventeen statements "influencing reasons" in Factor 1 is 71.1, and the average of the means for these statements reflecting "satisfaction

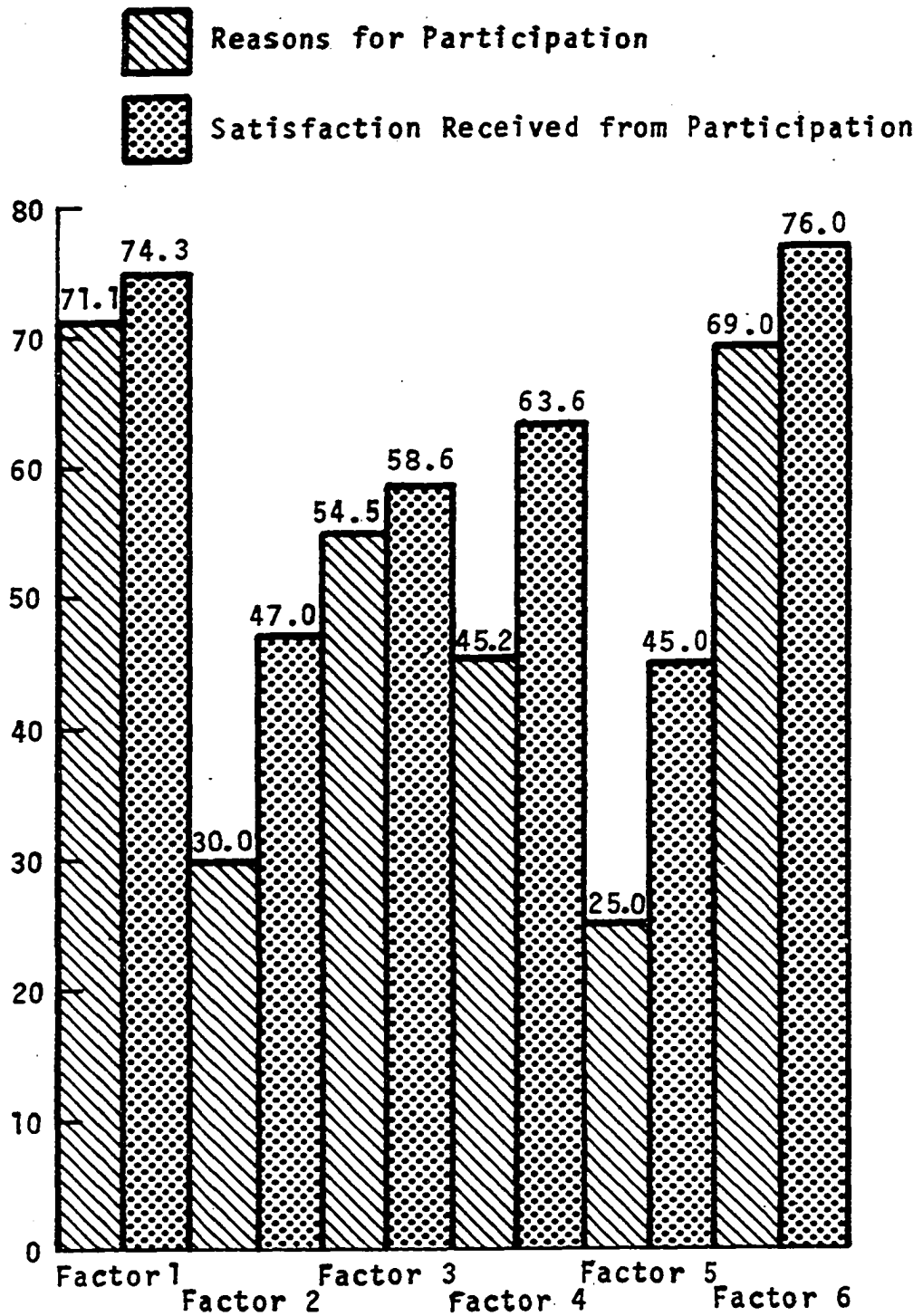


Figure 7. Average of the means contributed to each of the six factors

received" from participation is 74.3, indicating the alumni derived a greater degree of satisfaction from the motivating factors than was anticipated. A desire for mental stimulation was the primary influence for participation and the seminars succeeded in fulfilling it (mental stimulation) to a high degree.

Results of the analysis of variance are summarized in Table 49 but, additional interpretation will be reported for each of the six factors.

Results of analysis of variance tests of Scale 1 scores

Sex difference      Based on reasons influencing participation, women scored the seventeen statements in Factor 1, consistently higher than the men.

On Test 1, the mean score for women was 73.3 and for men 64.7. On Test 2, the mean for women was 75.8 and for men 62.3. Both of these results are highly significant. On Tests 3 and 7, there was a significant difference between scores for men and women. These results indicate a strong and definite difference between men and women participants concerning the "Desire to be Intellectually Curious". Women respondents expressed a much stronger motivation to participate in the alumni seminars based on intellectual curiosity.



Test 8	Age	--	xx	--	xx	--	xx	--	x	--	--	--	--
	x												
	Frequency of attendance	--	--	--	--	--	--	--	--	--	--	--	--
Test 9	Educational level	--	--	--	--	--	--	--	--	--	--	--	--
	x												
	Frequency of attendance	--	--	--	--	--	--	--	--	--	--	--	--
Test 10	Size of community	--	--	--	--	--	--	--	--	--	--	--	--
	x												
	Frequency of attendance	--	--	x	--	--	--	--	--	--	--	x	--
Test 11	Year of 1st graduation	--	--	--	--	--	--	--	--	--	--	--	--
	x												
	Frequency of attendance	--	--	--	--	--	--	--	--	--	--	--	--
Test 12	Undergraduate major	--	--	--	--	--	--	--	x	--	--	--	--
	x												
	Frequency of attendance	--	--	--	--	--	--	--	--	--	--	--	--

<sup>a</sup>s1 - Scale 1 scores.

<sup>b</sup>s2 - Scale 2 scores.

<sup>c</sup>xx - highly significant test result.

<sup>d</sup>x - significant test result.

### Age differences

Tests for age differences did not produce any significant findings thus, intellectual curiosity as a reason for participation was not influenced to a significant degree by age differentials.

### Educational level differences

Since the alumni seminars were designed for married couple participation, not all spouses were college graduates. One test for educational level differences (Test 6), produced a significant difference when the size of the community in which the respondents lived was also treated as a main effect variable. Respondents who were college graduates had the highest mean scores on the seventeen statements in Factor 1. The mean for college graduates is 72.1, followed by respondents with masters degrees or higher 71.1, college graduate with additional graduate courses 68.6 and those respondents did not graduate from college 67.4. As a reason for participation, intellectual curiosity was not as strong among those without college degrees as it was for the college graduates.

### Size of community differences

Analysis of variance tests with size of community treated as a variable, did not produce significant differences in the scores of respondents residing in communities of varying size. The desire to be intellectually curious is as strong for those

respondents living on farms and small towns as it is for alumni living in much larger communities.

#### Year of first graduation and undergraduate major differences

Tests to determine if differences in mean scores might exist between alumni who had graduated at different time periods and with various undergraduate majors did not produce any significant findings, thus the desire to be intellectually curious was not significantly different in either of these tests.

#### Results of analysis of variance tests on Scale 2 scores

This series of tests attempted to answer the question: Did the seminars satisfy the intellectual curiosity of the alumni?

#### Sex differences

Regarding the mean scores for satisfaction received from participation (Scale 2 scores) as related to: A Desire to be Intellectually Curious, produced no difference between the mean scores for men and women when age is also treated as a main effect variable. But, there are highly significant differences between the mean scores for men and women when educational level and size of community are treated as variables. Mean scores for men and women in each test are respectively: men, 64.6; women 78.1; men 67.0; women 74.9. There is a significant difference between the mean scores for

men and women when frequency of participation in the seminars is treated as an independent variable with the mean for men, 68.2 and mean for women, 74.5. Again, women respondents scored higher than men when satisfaction received from participation is considered.

#### Age differences

The factor of age did not make a significant difference on the mean scores for the seventeen statements in Factor 1, when educational level and community size are treated as variables. Participants of all ages had similar mean scores regarding the degree of satisfaction received from participation. But, when age and frequency of participation were tested, there was a highly significant difference between the mean scores for the two age groups. Those participants under 45 years of age had a mean score of 73.1 and those over 46 years of age, a mean score of 69.9. Alumni participants under 45 years of age received a greater degree of mental stimulation from the seminars than did the respondents who were over 46 years of age.

#### Educational level differences

There were no significant differences on the degree of satisfaction received from the seventeen statements in Factor 1 for respondents with varying levels of education.



### Size of community differences

The size of community in which the respondents live did not make a significant difference on the mean scores for the degree of satisfaction received from Factor 1. Those living on farms and small towns were as well satisfied with the mental stimulation provided by the seminars as were respondents living in much larger communities.

### Year of first graduation and undergraduate major differences

Tests did not produce significant differences between mean scores for the degree of satisfaction received from participation. Satisfaction derived from the mental stimulation provided by the seminars was as great for each of the alumni graduating in the four periods and, also for those alumni with various undergraduate majors.

### Summary

The quest for knowledge then, was an important force or influence operating on the alumni. They perceived the seminars as an opportunity to gain knowledge and better understanding of the topic(s) and issues involved. The women were more interested in the quest for knowledge than were the men, as they scored the seventeen statements associated with Factor 1 significantly higher. Also, those respondents with college degrees exhibited a stronger desire for intellectual stimulation than spouses who were not college graduates.

The alumni were quite satisfied the seminar(s) provided them with the mental stimulation expected. Again, it was the women who expressed this satisfaction to a greater degree than men respondents. The variable of age also played a part, as the younger alumni were more satisfied with the mental stimulation provided by the seminars than the older participants.

The variables of community size, frequency of participation in the seminars, year of first graduation from Iowa State University and undergraduate major were not significant forces or influences concerning Factor 1.

Factor 2 - A Desire to Escape from Boredom  
Through Intellectual Pursuits

In general, this factor was not a strong influence to participation. A review of the nine statements and individual mean scores for each statement in this factor reveals only one with an overall mean above 50. That statement is "talk with people who have more intellectual interests than my usual social friends". The average of the means for the nine statements in Factor 2 is 30 and the range of the means is 16 to 43. The statement, "seek relief from boredom" has the lowest mean score, 16, of any of the 58 statements in the participation scale.

To escape from boredom, then, was not a major reason for participation in the seminars. These alumni and spouses tended to base their decision to involve themselves with the

seminars on other reasons. It was demonstrated that the desire or expectation from mental stimulation was a strong influence.

Results of analysis of variance tests on Scale 1 scores

Community size differences      The test for mean differences between the four educational levels and three community sizes (Test 6) did produce a significant difference between the mean scores for alumni residing in communities of different size. Alumni living in communities under 5000 had a higher mean score, 26.5, on the nine statements in Factor 2, indicating a somewhat stronger "escape influence" as a reason for participation in the seminars. The mean scores for alumni residing in communities of larger size were 23.7 for those living in places 5000 to 30,000 and 24.1, for alumni living in places over 30,000. This difference would suggest the alumni living in smaller communities had fewer opportunities to engage themselves in educational experiences of this nature and felt the seminars would help fill this void.

Frequency of attendance      These differences are significant when size of community in which the alumni reside was treated as a variable. Alumni who had participated in one seminar had a mean score of 27 for the nine statements in Factor 2 and alumni who had participated in two or more of the seminars had mean scores somewhat larger indicating the element of "escape" was operating to a greater degree on those alumni

who had participated in two or more of the seminars.

Mean differences between the independent variables of sex, age, educational level, year of first graduation and undergraduate major were not significant as reasons influencing participation concerning Factor 2.

#### Results of analysis of variance tests on Scale 2 scores

Age differences Mean scores for age were significant in two of the analysis of variance tests concerning scores on Scale 2 (satisfaction received from participation). Participants under 45 years of age had a higher mean score, 42.1, on the nine statements in Factor 2 than did the participants who were over 46 years of age, 38.8. This was true when both educational level and frequency of participation were treated as main effect variables. This evidence supports the notion that younger alumni participants gained more satisfaction from the "escape" element than did the older participants. The opposite might have been suspected as the older group possibly having more unfulfilled time would have realized a greater relief from boredom (higher mean score) than the younger alumni.

Other independent variables including sex, educational level, frequency of participation, year of first graduation and undergraduate major did not produce any significant differences in mean scores on the nine statements in Factor 2

as they relate to the degree of satisfaction the alumni received from participation in the seminars.

Summary Alumni and spouses did not involve themselves with the seminars because they were bored with "things" and didn't have anything else to do. In fact, quite the opposite was probably true, some other activity was foregone in favor of participation in the alumni seminars.

This evidence tends to indicate that alumni living in smaller communities may not have the breadth of educational opportunities as alumni living in larger centers, and, therefore, found the seminars more appealing.

The alumni and spouses did find the seminars more rewarding as a possible release from boredom than was expected, particularly the younger alumni.

#### Factor 3 - A Desire to Serve others Through Intellectual Pursuits

An analysis of this factor and the mean scores associated with each of the six statements indicate alumni participation was motivated quite strongly by a desire to gain knowledge that would be useful in carrying out social responsibilities. The average of the means for the six statements in this factor is 54.5, ranking it third behind Factor 1 and Factor 6 as a basis or reason for participation.

Statement 3, "acquire knowledge that will help me be a more effective citizen", had a mean score of 72, indicating the strength of this force or desire to gain knowledge that would be useful. These alumni, like many other participants in continuing education programs, are pragmatic in their approach to involvement - there must be some identifiable and expected gain associated with participation in educational activities.

If the alumni had not felt they received the expected knowledge or gain associated with Factor 3, the mean scores for satisfaction received from participation (Scale 2), would have been lower. As it turned out, the average of the means for Scale 2 statements is 58.6, which indicates the alumni did in fact receive or gain the expected knowledge.

#### Results of the analysis of variance tests on Scale 1 scores

Analysis of variance tests incorporating the independent variables did not produce any significant differences in the mean scores for the six statements in Factor 3. As a basis for participation, there were no differences in the alumni and their desire to gain knowledge that would be useful to them in the service to others.

#### Results of the analysis of variance tests on Scale 2 scores

There was a highly significant difference between the mean scores for men and women on the six statements in Factor

3, as they relate to the degree of satisfaction received from participation when educational level is also treated as a main effect variable. The mean score for women on these statements is 66.3 and the mean for men is 50.5. On the basis of wanting to be useful and effective citizens, women participants were more satisfied than men with the knowledge gained from participating in the seminars. This result is also true when size of community in which the alumni reside is treated as a variable. The mean score for women in this case is 61.6 and the mean for men is 55.2.

Age is a significant factor on Scale 2 scores when frequency of participation in the seminars is also treated as a variable. Participants under 45 years of age had a composite mean score of 61.1 for the six statements and participants over 46 years of age had a mean score of 56.2. The younger alumni scored higher on these statements reflecting the need to be more effective citizens, that is, they were more satisfied with the seminars as helping them toward this goal than were the older participants.

Summary One of the reasons Iowa State University alumni participated in the seminars was based on a need to acquire knowledge that would be useful and purposeful to them as members of society. The information was needed to help and aid them to be more effective citizens. Results indicate the alumni were satisfied the seminars provided knowledge and

information of the nature expected. However, the women felt this satisfaction to a greater degree as they scored higher on the statements in this factor than did the men. Also, the younger alumni were more satisfied the seminars provided them with information to be more effective citizens.

Factor 4 - A Desire to Enjoy Congenial  
People and the University

Although not as significant as some of the other influencing factors, Factor 4, A Desire to Enjoy Congenial People and the University was, never-the-less, an important participation influence. The seminars did provide the alumni with an opportunity to again, "establish intellectual contact with Iowa State University", "to be with friends and other alums", and "have a good time". As a basis or influence for participation, the average of the means for the ten statements is 45.2.

More importantly, the seminars did provide the alumni with a "good time", as the average of the means for the ten statements for degree of satisfaction received from participation was 63.6.

Results of the analysis of variance tests on Scale 1 scores

Analysis of variance tests incorporating the independent variables did not produce any significant differences in the mean scores for the ten statements in Factor 4. As a basis



for participation, there were no differences in the alumni in relation to their desire to meet with friends, other alums, and "re-unite" with Iowa State University.

Results of the analysis of variance tests on Scale 2 scores

When age of the participants and frequency of participation in the seminars are treated as variables (Test 8), there was a significant difference between the mean scores on the ten statements reflecting satisfaction from meeting with old friends, alums, and re-establishing intellectual contact with Iowa State University. The mean score for participants under 45 years of age is 62.1 and for those over 46 years of age, 60.0. This is not a large difference and is confounded because of the significant interaction between the two age groups and frequency of participation. Satisfaction from participation may increase for the younger alumni as frequency of participation in the seminars increases and satisfaction for the older alumni group may decline as frequency of participation increases.

The test for Scale 2 mean differences between six undergraduate majors and frequency of participation in the seminars also produced a significant finding. For the alumni participants who did graduate from Iowa State University, there was a significant difference in mean scores on the ten statements comprising Factor 4, as scored for degree of satisfaction received from participation in the seminars. Alumni who

graduated with undergraduate degrees in engineering had the lowest mean score, 53.2, followed by graduates from Science and Humanities, 58.4, Veterinary Medicine, 62.6, Agriculture, 64.6, Home Economics, 64.1, and Education, 65.9.

Summary To have a "good time", was not a major reason for participation in the seminars. The alumni placed other values ahead of "social contact" as an influencing reason. However, the stimulation or satisfaction enjoyed because of participation was much greater. The alumni did not place a major emphasis on having a "good time" as a reason for participation but, did, in fact, have a good time. This aspect is important for individuals involved in planning continuing education programs for alumni. The alumni perceive their commitment to involvement in continuing education programs on one set of factors and possibly, program planners design activities with another set of objectives in mind.

Alumni participants under 45 years of age were a little more satisfied with the seminars as a stimulus for social contact. Also, Iowa State University alumni with undergraduate majors in agriculture, home economics, and education were more satisfied with the social contact provided by the seminars than were alumni with undergraduate majors in engineering, science and humanities and veterinary medicine.

#### Factor 5 - A Desire to Broaden a Narrow Education

The average of the means for the two statements in this factor was the lowest, 25.0, of any of the six factors. As an influence or reason for participation, the respondents scored this factor lower than the other five factors. However, mean scores for the statements in Factor 5, relative to satisfaction received from participation were substantially higher as the average of the means is 45.0. This would indicate that although the respondents did not feel participation was greatly influenced due to a lack of a broad education, respondents were satisfied that participation did in fact add or contribute to a broadening educational experience.

#### Results of the analysis of variance tests on Scale 1 scores

Educational level      These differences are significant for Factor 5 when sex is treated as a main effect variable. The mean score for participants with less than college degrees was significantly higher than for respondents with college degrees. The participants without college degrees felt a stronger influence to participate based on the need to supplement a narrow education. A similar finding resulted when age was treated as a main effect variable.

#### Results of the analysis of variance tests on Scale 2 scores

Sex differences      Based on satisfaction received from participation, women had a mean score of 48 and the mean for

men was 42. Women respondents were satisfied to a greater degree that the seminars did provide them with a broadening educational experience.

Educational level differences Consistent with the findings on Scale 1 scores, respondents with less than college degrees derived greater satisfaction in that the seminars provided them with a broadening educational experience than did participants with college degrees.

Summary This factor, A Desire to Broaden a Narrow Education, was the lowest in terms of influence of any of the six factors. The alumni did not participate in the seminars to fill an educational void, however, mean scores reflecting satisfaction from participation would indicate a recognition by the alumni that information and subject matter dealt with in the seminars did provide some measure of "knowledge expansion". Women respondents were more satisfied with the seminars as a "broadening" or "mind stretching" experience than were the men. Also, respondents with less than college degrees scored higher on satisfaction than did respondents with college degrees.

#### Factor 6 - A Desire to Share Intellectually with Spouse

This factor proved to be a strong influence to participation in the seminars. The average of the means for the two statements is 69, which is second only to Factor 1 as an

influencing component. The strong emphasis placed by the participants on the desire to share an intellectual experience with spouse possibly reflects a personal need of much wider scope by the respondents. In our highly organized society, opportunities for husband and wife to "do something of mutual interest together" are increasingly more difficult. Participants in these alumni seminars have written comments and spoken to the author regarding this idea; "we had some wonderful talks between ourselves", "Mr. \_\_\_\_\_ and I prepared seriously for this meeting, reading aloud and discussing in advance the assigned material", "this was the first time my husband and I have read about and discussed a mutually enjoyable subject together". The seminars, designed for couple participation provided an opportunity for the alumni couples to share in the same learning experience and, the mean scores for Scale 2 response support the fact there was a high degree of satisfaction received. The overall mean for statement 22 (share a common educational experience with my spouse) was 79 and, the average of the means for the two statements in Factor 6 is 76.

Results of the analysis of variance tests on Scale 1 scores

Sex differences      There was a significant difference between the mean scores for men and women on the two statements in Factor 6 as they relate to the degree of influence this

factor played in determining participation when age, community size, and frequency of attendance are treated as main effect variables. The mean for women is 68.0 and mean for men is 61.0.

Frequency of attendance differences      There was a significant difference between the mean scores for frequency of participation in the seminars when size of community is treated as a main effect variable. Alumni respondents who had participated in just one seminar had the lowest mean score 62.8, alumni who had participated in two seminars had a mean of 69.8 and alumni participating in three or more seminars a mean of 67.2.

Results of the analysis of variance tests on Scale 2 scores

Analysis of variance tests incorporating the independent variables did not produce any significant differences in the mean scores for the two statements in Factor 6. As a basis for satisfaction received from participation in the seminars, there were no differences in the alumni.

Summary      The alumni felt quite strongly about the sharing or joining with spouse in these alumni seminars. The opportunity to share in an educational program of the type studied, was a strong inducement or influence to participation and, actual participation increased this attitude. Women respondents expressed this desire to share intellectually with

spouse to a greater degree than did the men. For program planners, the idea of designing certain kinds of programs for both husband and wife is an element for consideration.

Actions Taken by the Seminar Participants  
as a Result of Participation

Program planners of continuing education experiences are constantly interested in "why students participate", "what the students take away from an educational program", and "what they (students) do with it((information, skills, techniques) after the program is completed?"

The previous sections focused on the first two of these questions. It was determined that participation in the programs studied was, to a large degree, based on such factors as: "a quest for knowledge", "intellectual curiosity", "seek knowledge to serve others" and, "share in a learning experience with spouse".

To a large degree, the participants engaged in some kinds of follow-up activities as a result of their participation in the alumni seminars. The seminar planning committee felt a "multiplier effect" would be operating with the alumni participants as they returned to activities and responsibilities in their respective communities. Survey data support this contention. Over 50% of the respondents indicated taking one or more of the following actions:

- visited with others about the seminar topic(s)
- read additional material related to the subject
- recommended seminar reading material to others
- gave seminar reading material to a friend
- persuaded others to read about the subject(s)
- actively discussed an issue related to one or more of the seminar(s) from the floor at a meeting

It is quite evident that participation in the seminars did in fact lead to further dissemination of information through a variety of activities and actions to other individuals and groups.

#### Continuing Education Needs of Iowa State University Alumni

Non-credit programs      The results of Section IV of the survey instrument concerning educational needs in non-credit programs is particularly interesting. Of the six general subject matter areas:

Local-national programs concerned with social, political and economic issues,  
 International programs concerned with social, political and economic issues,  
 Cultural programs,  
 Liberal education programs,  
 Home and family living programs,  
 Professional and skill growth programs,

need for professional programs was ranked last by the respondents. Two hundred one respondents (70%) felt a need for such programs as opposed to 261 (91%) expressing a need for programs concerned with social, political and economic issues at the local and national level. This finding is



similar to the one found by Parsons (33), in his study, "Needs and Interests of Iowa State University Alumni in Continuing Education". In his study, it was found that a total of 87.8% of the 937 alumni surveyed felt an obligation to continue their education to be knowledgeable and alert to problems, issues and concerns in areas other than those related to occupation. And, in response to questions concerning need for additional education, 79.1% expressed a need for additional occupational training whereas, 79.3% expressed a need for additional training in non-occupational areas. The low ranking of need for professional and skill growth programs in the present study may be partially attributable to sex difference as half of the respondents were women who, generally, are not working professionally in the same number as men.

Academic credit courses      Concerning the need for academic credit courses, respondents indicated about as many undergraduate courses, 181, as graduate level courses, 208. This is somewhat surprising as 250 of the 287 respondents are college graduates. Table 50 shows the frequency of undergraduate courses listed by academic subdivisions. Participants expressed the strongest need for courses in home economics, social sciences, letters, education, business management, and fine and applied art. This selection provides evidence that the alumni participants want continuing

Table 50. Frequency of undergraduate credit courses ranked in order of expressed need

Academic subdivision	Frequency
Home economics	35
Social sciences	22
Letters	21
Education	16
Business and management	12
Fine and applied art	12
Agriculture and natural resources	8
Psychology	7
Biological sciences	6
Engineering	6
Architecture and environmental design	6
Area studies	6
Library science	4
Physical science	4
Communication	3
Computer and information science	3
Foreign language	3
Law	2
Mathematics	2
Health professions	2
Public affairs and services	<u>1</u>
	181

educational experiences in subjects related to family life, liberal education, social and political fields, elementary education, and money management. Comparing courses desired and undergraduate major, it is fairly evident that alumni participants want undergraduate courses in subjects not directly related to chosen vocation or profession.

The expressed need for graduate level courses is not greatly different from the undergraduate courses listed. Table 51 shows the frequency of graduate level courses listed by academic subdivisions. Courses in psychology are ranked a little higher as expressed needs at the graduate level. Again, the selection of courses leads to a tentative conclusion that alumni in this study want to broaden an educational base by taking courses in subjects different from undergraduate major study areas.

#### Significance of this Study

This study has investigated a group of Iowa State University alumni and their participation in a series of programs concerned with public and contemporary affairs. The results support the findings of other participation studies in that no one factor or reason is responsible for involvement or participation in adult and continuing education programs. In most cases, participation is associated with a number of variables with some variables exhibiting more influence than

Table 51. Frequency of graduate credit courses ranked in order of expressed need

Academic subdivision	Frequency
Home economics	42
Social sciences	39
Education	30
Business and management	20
Letters	17
Psychology	13
Agriculture and natural resources	9
Fine and applied art	7
Biological science	7
Engineering	4
Communications	4
Computer and information science	3
Law	3
Architecture and environmental design	2
Area studies	2
Library science	2
Mathematics	2
Foreign language	1
Health professions	1
Physical science	0
Public affairs and services	0
	<u>208</u>

others.

A number of studies in adult and continuing education have had "reasons for participation" as a central problem. Professor Houle (18), in *The Inquiring Mind*, identified three motivational orientations responsible for engagement and participation in adult learning activities. These motivations are; goal orientation, activity orientation and learning orientation. Individuals in the first group use education as a means of accomplishing clear cut objectives. Those in the second group take part in adult and continuing education programs primarily for reasons unrelated to the purposes or content of the program. The learning oriented participant seeks knowledge for its own sake.

Other studies of participation patterns have tested Houle's findings. In his study of adult education participants in 20 continuing education conferences, Sheffield (35), identified five learning orientations. These were similar to those described by Houle but added a societal goal component to the goal oriented learner and a need-activity orientation component to the activity orientation.

Boshier (6), studied reasons for participation in University Extension adult education courses. He describes four independent and uncorrelated factors. Two of the factors are vocational or goal oriented in nature and two are grounded in a social context.

Contrasted with these investigations, there are a number of important differences in the present study.

College graduates from Iowa State University and their spouses were the subjects for the study. This population is important in itself but, in addition, they (alumni) were involved in a series of similar continuing education programs concerned with public affairs and contemporary issues. This study examines participation in these seminars over an extended period of time.

The problem was designed to identify factors associated with participation in the seminars and tested for differences in the factors with selected alumni characteristics.

The six factors identified indicates this group was primarily motivated by a sense of intellectual curiosity in the seminar subjects. The alumni felt a need to involve themselves in the seminars to increase or contribute to their knowledge and understanding about the seminar subjects. This need is further amplified by a desire to be better informed citizens and put the information to use as demonstrated in Factor 3, (A Desire to Serve others Through Intellectual Pursuits).

The third important finding demonstrates this group placed a high value on wanting to share an educational experience with spouse. One can only speculate what reasons lie behind this desire but, it did prove important for this

group of Iowa State University alumni. It could be hypothesized that programs concerning public affairs and contemporary issues affect all members of society, thus providing a common ground or meeting place for both husband and wife. Both can enter into topics of this nature to share and learn together.

#### Limitations of the Study

The population for this study was a group of Iowa State University alumni and their spouses. Factors related to participation in a series of public affairs and contemporary issues programs by the group provided the data for the study. Interpretation of the findings therefore, must be limited to the population and programs examined.

#### Suggestions for Future Research

This study has revealed a number of facts for consideration and possible direction for further study.

The alumni and spouses expressed a high interest level in wanting to share in these educational experiences. "Couple involvement", might be an area for further study by adult and continuing education programmers since the benefits to both good programming and strengthening of family ties through an educational experience seem worthwhile.

This study also revealed the strong attitudes of women participants concerning their desire for intellectual

enrichment and involvement in this series of programs. This fact is demonstrated throughout the study. Again, this factor and some attending relationships such as social demands, changing social roles and expectations of society might be areas for further study.



## SUMMARY

College and university alumni are finding the professional and vocational training received as undergraduate students insufficient in many ways to cope with problems facing contemporary society. Increasing numbers of college alumni are participating in continuing education programs to keep informed and learn about new skills and technology. In addition, there is increasing evidence that college and university alumni want to improve and extend their knowledge and understanding in subjects and topics other than those directly related to professional or vocational work.

A number of studies have examined adult participation in continuing education programs to learn more about the forces and factors influencing participation. Most such studies however, have had a broad scope in students and programs reviewed. In contrast, this study has investigated participation by a specific clientele (Iowa State University alumni and their spouses) in a particular type of program (public affairs and contemporary issues) to learn more about the forces and influences associated with such participation. The main problem was to identify the relevant factors which determine or influence Iowa State University alumni to participate in continuing education programs of this nature. In addition, information concerning post seminar behavior and other educational needs of the alumni in this study was collected.

The titles and offering dates of the seven alumni seminars investigated in this study include:

Impact of Modern Science on Our Culture	Nov. 4-5, 1966
Impact of Communications on Our Culture	Nov. 3-4, 1967
New Dimensions of Time	Nov. 8-9, 1968
Man, Environment and Survival	Nov. 7-8, 1969
Man, Environment and Survival II	April 10-11, 1970
Our Educational System in a Changing Social Environment	Nov. 13-14, 1970
Our Educational System in a Changing Social Environment	April 16-17, 1971

A questionnaire was constructed for the purpose of collecting the data. There were four sections to the questionnaire. Section I consisted of items related to the descriptive characteristics of the respondents. Section II consisted of the 58 statements in the Participation Scale. Respondents scored the statements on the degree of influence each statement played as a reason for the respondent's participation in the seminars, and secondly, on the degree of satisfaction each respondent received from participation in the seminars. Section III consisted of fourteen actions that participants might have taken as a result of participation. Respondents indicated actions taken and value of the seminars in contributing to the actions. Section IV consisted of kinds and types of educational experiences needed by alumni in this study.

Data from 287 questionnaires were analyzed. A factor analysis program yielded six factors as influencing alumni participation. The six factors identified were defined as follows:

Factor 1 - A Desire to be Intellectually Curious

Factor 2 - A Desire to Escape from Boredom Through Intellectual Pursuits

Factor 3 - A Desire to Serve Others Through Intellectual Pursuits

Factor 4 - A Desire to Enjoy Congenial People and the University

Factor 5 - A Desire to Broaden a Narrow Education

Factor 6 - A Desire to Share Intellectually with Spouse

Factor 1, A Desire to be Intellectually Curious, was the most important influence or reason for participation in the seminars by the alumni and their spouses. The average of the means for the seventeen "influencing reasons" in Factor 1 was 71.1. A primary reason for participation in the seminars was the expected mental stimulation.

Factor 6 was also an important influence. The desire to share in an educational experience with spouse was quite strong. Average of the means for this factor was 69.0.

The third important influence was Factor 3, which reflected a need by the alumni participants to keep abreast with current issues and problems as a personal responsibility and also as members of the larger society.

Of lesser importance were the influences represented by Factor's 2, 4 and 5. Thus, it can be concluded that participation in the seminars was not based primarily on the desire to escape from boredom, meet congenial people and broaden a narrow education.

The six identified factors were tested using multiple classification analysis of variance with selected characteristics of the respondents. Results of these tests provided evidence that women respondents were more interested in the quest for knowledge associated with Factor 1, than were the men. Women also expressed a greater desire to share in these educational experiences with their spouses. The women were more pleased or satisfied that the seminars provided them with mental stimulation, information to help serve others and a broadening educational experience.

Alumni participants under 45 years of age were more pleased or satisfied that the seminars provided mental stimulation, relief from boredom, information to help serve others and an opportunity to have a good time than were participants over 46 years of age.

To a large degree, participants engaged in some kinds of follow-up activities as a result of their participation in the alumni seminars. Over 50% of the respondents indicated taking one or more of the following actions:

- visited with others about the seminar topic(s)

- read additional material related to the subject
- recommended seminar reading material to others
- gave seminar reading material to a friend
- persuaded others to read about the subject(s)
- actively discussed an issue related to one or more of the seminar(s) from the floor at a meeting

The seminars did lead to further dissemination of information through a variety of activities and actions to other individuals and groups.

Alumni participants in this study expressed a strong need for continuing education programs concerned with public affairs and contemporary issues. Over 91% of the respondents wanted additional educational experiences in local-national programs concerned with social, political and economic issues. Approximately 70% of the respondents felt a need for programs concerned with professional improvement.

Respondents were asked to indicate a need for academic credit courses by writing in specific subject areas. Participants identified 181 undergraduate courses and 208 graduate level courses. Two hundred fifty of the 287 respondents are college graduates.

## BIBLIOGRAPHY

1. American Alumni Council. Proposal for a program of alumni education (working paper). Under joint auspices of the American Alumni Council and National University Extension Association. Notre Dame Conference, May 17-19, 1970. Washington, D.C., American Alumni Council. 1970.
2. American Alumni Council. Survey of alumni continuing education. Washington, D.C., Author. November 1967.
3. Beals, Ralph, A. Alumni education. In Rowden, Dorothy, ed. Handbook of adult education in the United States. Pp. 1-11. New York, New York, American Association for Adult Education. 1936.
4. \_\_\_\_\_ . Aspect of post-collegiate education. New York, New York, American Association for Adult Education. 1935.
5. Blackburn, Donald J. and Douglah, Mohammad A. Method orientation of adults for participation in educative activities. Unpublished paper presented at National Seminar on Adult Education, Chicago, Illinois, Feb. 12, 1968.
6. Boshier, Roger. Motivational orientations of adult education participants: A factor analytic exploration of Houle's typology. Adult Education 21, No. 2: 3-26. Winter 1971.
7. Burgess, Paul. Reasons for adult participation in group educational activities. Adult Education 22, No. 1: 3-29. Fall 1971.
8. Chamberlain, Neil. Your education - a lifetime process. Alma Mater 31, No. 4: 23-24. Sept. 1964.
9. Coombs, Philip H. The world education crises. New York, New York, Oxford University Press. 1968.
10. Cotton, Webster E. On behalf of adult education; a historical examination of the supporting literature. Brookline, Massachusetts, Center for the Study of Liberal Education for Adults. c1968.
11. Douglah, Mohammad. Some perspectives on the phenomenon of participation. Adult Education 20, No. 2: 88-89. 1970.

12. Eklund, Lowell. The Okland plan. *Alma Mater* 31, No. 5: 16-17. Nov. 1964.
13. Field, Bea. Research Report. *Alma Mater* 31, No. 1: 39-40. January 1964.
14. Gardner, John W. *Self-renewal, the individual and the innovative society*. New York, New York, Harper and Row. c1963.
15. Gessner, Quentin H. A study of the perceptions of an inter-university regional center as held by alumni of the participating Michigan universities. Unpublished Ph.D. thesis. East Lansing, Michigan, Library, Michigan State University. 1970.
16. Greeley, Andrew M. The alumni of the sixties speak out. *Alma Mater* 34, No. 5: 32-35. Dec. 1969.
17. Horn, Frances H. The responsibilities of colleges and universities: Can they be met? *Liberal Education* 52, No. 4: 400-417. Dec. 1966.
18. Houle, Cyril O. *The inquiring mind*. Madison, Wisconsin, University of Wisconsin Press. 1961.
19. Ingham, Roy John. The measurement of educative behavior and its relationship to the leisure satisfaction of college alumni. Unpublished Ph.D. thesis. Chicago, Illinois, Library, University of Chicago. 1963.
20. Johnstone, John W. C. and Rivera, Roman J. *Volunteers for learning*. Chicago, Illinois, Aldine Pub. Co. 1965.
21. Kellogg, W. K. Foundation. *Continuing education an evolving form of adult education*. Battle Creek, Michigan Author. 1959.
22. Knox, Alan B. and Sjogren, Douglas. Motivation to participate and learn in adult education. *Adult Education* 12, No. 4: 238-242. 1962.
23. Lerner, Max. The university in an age of revolution. In Whipple, James B. and Woditsch, Gary A. *Oakland paper, symposium on social change and educational continuity*. Brookline, Massachusetts, Center for the Study of Liberal Education for Adults. 1966.

24. Liu, An-Yen. A theory-based scale for measurement of effective responses to personality and attitude inventories. Unpublished Ph.D. thesis. Library, Iowa State University of Science and Technology, Ames, Iowa. 1971.
25. Liveright, A. A. A study of adult education in the United States. Brookline, Massachusetts, Center for the Study of Liberal Education for Adults. c1968.
26. McGean, Michael, J. The Dartmouth alumni college. Unpublished mimeographed report. Hanover, New Hampshire, Dartmouth Alumni College. January 15, 1964.
27. McMahon, Ernest E. New directions for alumni: Continuing education for the college graduate. Chicago, Illinois, Center for the Study of Liberal Education for Adults. 1960.
28. Oakland University. 1964-65 annual report of the Kellogg Foundation grant for Oakland university's alumni continuing education program. Rochester, Michigan, Author. 1965.
29. Oakland University. Board of Trustees. Proposal for a pilot study of an alumni continuing education program. Rochester, Michigan, Oakland University. Feb. 8, 1963.
30. Miller, Harry L. Participation of adults in education. Occasional paper No. 14. Brookline, Massachusetts, Center for the Study of Liberal Education for Adults. c1967.
31. Ohliger, John. What happened to the Canadian farm radio forum: Adult Education 23, No. 3: 176-187. 1968.
32. Pagano, Jules and Calverdt, Robert, Jr. Survey needs in adult education. Adult Leadership 19: 297-298. 1971.
33. Parsons, Gerald Edward. Needs and interests of Iowa State University alumni in continuing education. Unpublished Ph.D. thesis. Ames, Iowa, Library, Iowa State University of Science and Technology. 1970.
34. Shaw, Wilford B. Alumni and adult education. New York, New York, American Association for Adult Education. 1929.
35. Sheffield, Sherman B. The orientations of adult continuing learners. In Solomon, Daniel, ed. The Continuing Learner. Chicago, Illinois, Center for the Study of Liberal Education for Adults. c1964.



36. Thorndike, Edward L. Adult interests. New York, New York, The Macmillan Company. 1935.
37. Whitehead, Alfred North. The Aims of Education. In Goldwin, Robert A. and Nelson, Charles A., eds. Toward the Liberally Educated Executive. New York, New York, Mentor Books. c1957.

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To my family goes my deepest love and gratitude for their many sacrifices and continued patience, support, and encouragement throughout this graduate program.

APPENDIX A: BACKGROUND TO THE ALUMNI SEMINARS

Much of our present day communication is a one-way process. Individuals see, listen or read what "others" are saying via television, radio, newspapers, books, etc. Mr. Gladstone Murry referred to this problem in 1930, concerning the Canadian Farm Radio Forum, when he expressed a need to form (radio) listening groups to help overcome "the tendency to passivity that flows from perpetual listening," (31) and, John Gardner said in *Self-Renewal* (14), "one of the clearest dangers in modern society is that men and women will lose the experience of participating in meaningful decisions concerning their own life and work, that they will become cogs in the machine because they feel like cogs in the machine", and "it is not easy for the individual to retain a vivid sense of his own capacity to act as an individual, a sure sense of his own dignity and awareness of his roles and responsibilities. He tends to accept the spectator role and to sink into passivity." And, in addition to the one way communication problem, individual and group decisions of all types must be based or flow out of consideration for broad social and physical consequences, but, our society is turning many decision making responsibilities over to fewer and fewer people. Groups and organizations are leaving decisions to the "capable" leadership of these organizations. As this process progresses, the citizenry is developing a feeling of helplessness and is being cut off from the opportunities they

need to relate effectively to their social environment. To attack this "cut-off" feeling and its attendant problems, individuals (particularly individuals), groups and organizations must grow in competence and understanding both vertically in subject matter and horizontally in personal development. Much of what an individual brings to particular settings, i.e., the family, public service (government, schools), business, work or profession is based on personal attitudes and values. Individual as well as group attitudes and values must continually be tested with and against other values and attitudes in the larger society. Never before has it been so important for individuals and groups to be aware of, be informed about, be responsive to, and be responsible for all the forces and factors shaping and guiding the human community.

#### Development of the Alumni Seminars

It was out of these broad concerns that Iowa State University initiated a program to provide one way for faculty and Iowa State University alumni to join together to examine and explore in a deliberate and organized way, questions and issues facing us as a people and world community. More specifically, the first alumni seminar in 1966, incorporated the following objectives:

1. Provide a setting for alumni and faculty to share and express ideas on public affairs and contemporary issues.
2. Stimulate thinking about public affairs, human conditions and the implications of these conditions to the greater society.
3. Improve and extend communication between alumni and faculty members.
4. Explore individual and group perceptions and attitudes.
5. Encourage interdisciplinary involvement by the faculty in public affairs and contemporary issues.

Initiation of the first Alumni Seminar in 1966, evolved out of a series of informal discussions between Wallace E. Barron, Director of Alumni Affairs (deceased) and Iowa State University faculty members. Discussions centered on the various Iowa State University alumni activities and the social climate in which they were presented. A number of items emerged:

1. The student body at Iowa State University was growing at a rapid rate.
2. Graduating classes were getting ever larger in size.
3. It was becoming increasingly difficult to generate alumni "enthusiasm" built solely on Alumni Days or returning for the annual Homecoming football game.
4. Interests and values of recent alumni were somewhat different than those of older alumni.

It should be pointed out that this situation was not unique to Iowa State University as other institutions over the country were experiencing many of the same forces.

Out of these discussions arose a basic question. Can the alumni office develop "other" kinds of programs and services for Iowa State Alumni? From this question came others: What role and responsibility does the university have toward its alumni? Are there ways and means for the university and the alumni association to "join hands" concerning various educational needs and programs? Additional informal sessions were held with other Iowa State University faculty members concerning joint development of programs between Iowa State University and the Iowa State University Alumni Association. Administrators of the college of agriculture, home economics, sciences and humanities, and engineering were informed about the informal sessions and asked if representatives could be identified to serve on an ad hoc basis to explore ways and means in which educational programs might be developed between the university and its alumni association.

The first meeting of this group took place on February 4, 1966. In attendance were:

Julia Faltinson Anderson, Associate Dean, College of Home Economics

Leonard Feinberg, Professor of English

William R. Underhill, Professor, Department of English and Speech (now Chairman, Department of Speech)

Helen Brosier, Engineering Extension

Wallace E. Barron, Director of Alumni Affairs

George H. Ebert, Leader, Extension Courses and  
Conferences

Results of this initial meeting were:

1. "It was generally agreed that Iowa State University can and should make a significant contribution both to its alumni and others in the total adult education movement".

(Memo to committee, March 4, 1966)

2. Thought should be given to the development of an educational experience for alumni.

By April of 1966, after additional committee meetings, the first program (Impact of Modern Science on Our Culture) began to show signs of life. It was to be an intellectual affair that would bring together a group of "interested" alumni and Iowa State University faculty members to jointly explore a topic or issue of contemporary concern.

Following the definition by Sheffield (35), this would be a "functional" educational meeting - "having to do with practical but non-vocational responsibilities of adults which might assist the participant to become a better parent, to take a more active role in politics, to assume leadership in the various associations of which he is a member, to examine his ethical and religious beliefs, to attack problems of this society and build a stronger community, or to assume



other responsibilities related to his personal and social life."

A list of Iowa State University alumni was compiled by Mr. Barron. This list comprised about one hundred alumni who had graduated from Iowa State University fifteen to twenty years prior to 1966. It was a list of people representing a cross section of Iowa State alumni from the various colleges and professional training, who were "viewed" by Mr. Barron as being potentially interested in the type of educational program being planned.

A letter outlining the program theme and educational format was sent to this group of alumni inviting them to participate (see attached copy). A fee of \$20.00 per couple was established to cover direct costs associated with the meeting such as postage, meeting rooms, prescribed reading material, dinners, coffee breaks and supplies. Fifty-nine couples responded to the invitation and participated in the meeting held November 4-5, 1966, at Iowa State University. Two weeks after the meeting, the participating couples were mailed a questionnaire. The program planning committee reviewed the evaluation questionnaires returned by the alumni and, based on the positive expressions from the alumni, it was decided to develop additional alumni continuing education programs based on public and contemporary affairs. Programs

that have been presented to date include:

Impact of Modern Science on our Culture	Nov. 4-5, 1966
Impact of Communications on our Culture	Nov. 3-4, 1967
New Dimensions of Time	Nov. 8-9, 1968
Man, Environment and Survival	Nov. 7-8, 1969
Man, Environment and Survival II	Apr. 10-11, 1970
Our Educational System in a Changing Social Environment	Nov. 13-14, 1970
Our Educational System in a Changing Social Environment	Apr. 16-17, 1971
The Family: Traditions and Transitions	Oct. 8-9, 1971
Progress: Perils and Promises	Oct. 20-21, 1972

In review, these seminars have brought together many Iowa State University alumni couples with various faculty members to read about public affairs and contemporary issues. Diverse positions and thoughts were shared by the faculty and alumni along with alternative courses of action. It is hoped that all who have participated, alumni, faculty and students will have gained a greater appreciation and understanding of the many complexities, attitudes, and opinions regarding the various seminar topics plus a greater understanding of one another. In addition, it is hoped that these individuals will be better informed citizens as they carry out their respective responsibilities in their families, communities and as members of the larger society.

Iowa State University *of Science and Technology*



Ames, Iowa 50010

University Extension

Address reply to:  
Extension Courses and Conferences  
Curtiss Hall

August, 1966

Dear .....

Our President, W. Robert Parks, said in his recent inaugural address, "The goal of liberal education, as I read it, is the broad-based rounded development of the individual in all of his varied intellectual, aesthetic, and humane tastes and interests."

With this statement as background, we invite you to participate in a workshop of a most exciting nature.

\*You are one of approximately seventy-five people who has been extended an invitation to participate in a workshop entitled "The Impact of Modern Science on our Culture."

\*This workshop is designed for couple participation - because both husband and wife are part of the larger society in which activity takes place. Those attending the workshop will come from a wide range of professional and vocational training.

\*Couples will be sent advance reading material. The program committee feels that you, the participant, will gain much more from the workshop by advance preparation.

\*Couples will meet with discussion leaders in two different workshops. Notice of assignment to workshops will be sent in advance. This is your opportunity to discuss points of interest and learn from the discussion leaders and others in the group.

#### Now the Particulars

What? The Impact of Modern Science on our Culture

When? 1:30 p.m. - November 4-5, 1966

Iowa State University of Science and Technology



Ames, Iowa 50010

University Extension

Address reply to:  
Extension Courses and Conferences  
Curtiss Hall

Where? Gallery - Memorial Union

Program participants and discussion leaders:

W. Robert Parks, President Iowa State University	Keith Huntress, Professor of English
Helen R. LeBaron, Dean College of Home Economics	Emerson W. Shideler, Professor of Philosophy
Robert S. Hanson, Head Department of Chemistry	Wm. R. Underhill, Professor of Speech
Earl O. Heady, Director Center for Agriculture and Econ. Dev.	

Iowa State University has a long history of service to the people of Iowa and the nation. This workshop is a further effort to extend its resources into the development of Iowa's greatest resource - its people.

Each of you has a special discipline of training. You are active in that discipline and have the specialized knowledge to accomplish objectives but, much goes on in society where specialization is not enough to get the job done.

As leaders in your own communities you are involved in many activities and discussions affecting the direction and purpose of not only the community but the people who live in the community. To these activities you must bring a much broader knowledge - a more liberal outlook. We feel this program will add to your personal development, bring forth the needs and problems you will face, and provide a more sound basis for discussions within society.

Iowa State University *of Science and Technology*



Ames, Iowa 50010

*University Extension*

Address reply to:  
Extension Courses and Conferences  
Curtiss Hall

Because of the nature of the program, and arrangements which must be made for it, the planning committee must know if you folks can accept Iowa State's invitation to participate in the November 4-5 workshop on "The Impact of Modern Science on our Culture." Please use the accompanying card to make your reservation. Return by September 15. We are looking forward to your attendance and participation.

Respectfully yours,

Program Committee,

Julia Faltinson  
Helen Brosier  
Leonard Feinberg  
Wm. R. Underhill  
W. E. Barron  
George H. Ebert

APPENDIX B: SURVEY QUESTIONNAIRE AND  
COVER LETTER

Iowa State University Alumni Seminar  
Participation Scale

**INSTRUCTIONS**

1. Please work independently.
2. There is no time limit associated with completion of the questionnaire, but please return within *one week*.
3. Each questionnaire is numbered. This number is an aid to follow-up procedure. Content of your questionnaire will remain confidential.
4. After completing the questionnaire, return it in the self-addressed envelope.

This first section of the questionnaire consists of questions about your general background situation. You are to select *one answer* only to each question. Write the *number* of that answer in space provided.

Your  
Answer

\_\_\_\_\_ Sex:

1. Female
2. Male

\_\_\_\_\_ My present age is:

1. 25 to 35
2. 36 to 45
3. 46 to 55
4. 56 to 60
5. 61 and over

\_\_\_\_\_ The highest educational level that I attained was:

1. High school graduate
2. High school graduate plus formal training other than college
3. Two years of college or less
4. More than two years of college but did not graduate
5. College graduate
6. College graduate plus several graduate courses
7. Master's degree or higher
8. Other

\_\_\_\_\_ Size of community in which I now live:

1. Rural (farm)
2. Under 3,000
3. 3,000 to 5,000
4. 5,000 to 10,000
5. 10,000 to 30,000
6. over 30,000

\_\_\_\_\_ Listed below are the titles and dates of all Alumni Seminars presented. Indicate in space at left the total number of seminars you have attended. Also, check the seminars you have attended.

- \_\_\_\_\_ Impact of Science on Our Culture, *Fall, 1966*
- \_\_\_\_\_ Impact of Communications on Our Culture, *Fall, 1967*
- \_\_\_\_\_ New Dimensions of Time, *Fall, 1968*
- \_\_\_\_\_ Man, Environment and Survival, *Fall, 1969*
- \_\_\_\_\_ Man, Environment and Survival II, *Spring, 1970*
- \_\_\_\_\_ Our Educational System in a Changing Social Environment, *Fall, 1970*
- \_\_\_\_\_ Our Educational System in a Changing Social Environment, *Spring, 1970*

Please mark (  $\checkmark$  ) or write in the appropriate information for the following questions:

Did you attend Iowa State University?

\_\_\_\_\_ Yes

\_\_\_\_\_ No

If yes, year(s) of attendance \_\_\_\_\_

My undergraduate major at Iowa State University was \_\_\_\_\_

Did you graduate?

\_\_\_\_\_ Yes

\_\_\_\_\_ No



**SECTION II--Participation Scale**

The purpose of this section of the questionnaire is *twofold*:

1. To provide a way for you to describe the degree various reasons influenced you to participate in one or more of the Iowa State University Alumni Seminars regardless of whether the seminar(s) met these expectations.
2. To provide a way for you to estimate the degree the seminar(s) fulfilled your expectation.

All of the answers in this section have one thing in common. You are asked to answer each statement by *using a number from 1 to 99*. When you are asked to determine the degree of *influence*, an answer of "1" means that this reason has "no influence" on you as a reason for participation. An answer of "99" indicates that a particular reason influenced you very much.

You can make as fine a distinction as you feel you can make. Use the numbers you feel most comfortable with and if you feel you can distinguish between 50 and 51, then do so.

You are to respond to each statement in this section *twice*, once in terms of *influence* and secondly, in terms of *satisfaction*.

Use *COLUMN I* and spaces on *left side of page* to write your answer to indicate extent (degree) each reason listed influenced you to participate. Use *SCALE NO. 1* to determine your answer.

Use *COLUMN II* and spaces on *right side of page* to write your answer to indicate degree of achieved satisfaction. Use *SCALE NO. 2* to determine your answer.

**SCALE NO. 1**

Extent to which each of these reasons influenced me to participate										
When responding to the statements below, use the following scale										
1	10	20	30	40	50	60	70	80	90	99
Very little influence			Moderate influence					Very much influence		

**SCALE NO. 2**

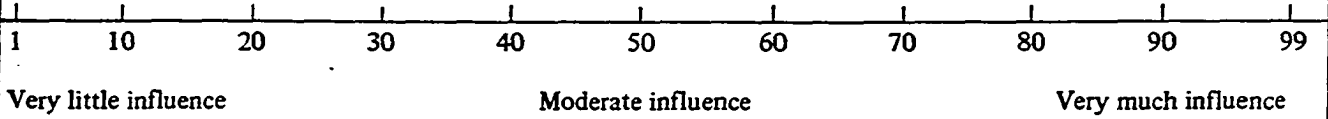
The degree to which I achieved satisfaction										
When responding to the statements below, use the following scale										
1	10	20	30	40	50	60	70	80	90	99
Very dissatisfied			Moderate satisfaction					Very satisfied		

**EXAMPLE**

One of the reasons listed is "engage myself in mental stimulation." Using *SCALE NO. 1*, determine the degree (this might be 26 or 83) *you feel* this particular reason had as an influence or basis for your participation. Record your answer in the space provided (*COLUMN I*). Now, use *SCALE NO. 2* to determine the degree or extent of satisfaction *you feel* you achieved based on the same statement. Record your answer in space provided (*COLUMN II*).

Extent to which each of these reasons influenced me to participate

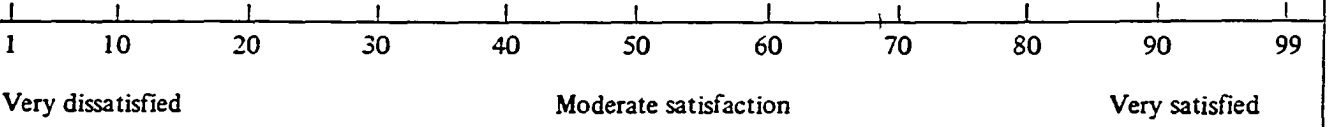
When responding to the statements below, use the following scale



SCALE NO. 2

The degree to which I achieved satisfaction

When responding to the statements below, use the following scale



Please remember to respond twice to every statement

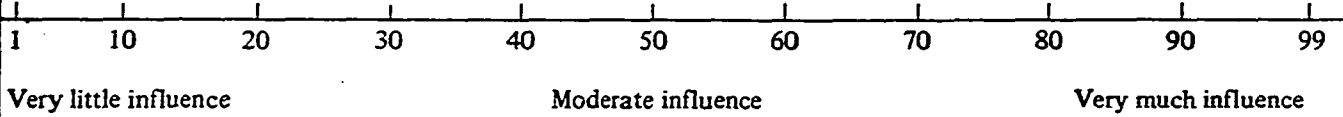
COLUMN I

COLUMN II

- \_\_\_\_\_ 1. engage myself in mental stimulation \_\_\_\_\_
- \_\_\_\_\_ 2. to be with friends and other alums \_\_\_\_\_
- \_\_\_\_\_ 3. acquire knowledge that will help me be a more effective citizen \_\_\_\_\_
- \_\_\_\_\_ 4. establish intellectual contact with Iowa State University \_\_\_\_\_
- \_\_\_\_\_ 5. make new friends \_\_\_\_\_
- \_\_\_\_\_ 6. probe topics of significance \_\_\_\_\_
- \_\_\_\_\_ 7. renew pride in my university \_\_\_\_\_
- \_\_\_\_\_ 8. engage in the discussion of ideas and opinions \_\_\_\_\_
- \_\_\_\_\_ 9. hear ideas from others \_\_\_\_\_
- \_\_\_\_\_ 10. have a good time \_\_\_\_\_
- \_\_\_\_\_ 11. meet with respected faculty \_\_\_\_\_
- \_\_\_\_\_ 12. seek to contribute to the "common good" \_\_\_\_\_
- \_\_\_\_\_ 13. to satisfy an inquiring mind \_\_\_\_\_
- \_\_\_\_\_ 14. participate in a forced reading program \_\_\_\_\_
- \_\_\_\_\_ 15. enjoy socially oriented learning activities \_\_\_\_\_
- \_\_\_\_\_ 16. exchange ideas and information with other alums \_\_\_\_\_
- \_\_\_\_\_ 17. supplement a narrow previous education \_\_\_\_\_
- \_\_\_\_\_ 18. become more aware of social problems \_\_\_\_\_
- \_\_\_\_\_ 19. keep abreast with present day thought \_\_\_\_\_
- \_\_\_\_\_ 20. prepare for service in the community \_\_\_\_\_

Extent to which each of these reasons influenced me to participate

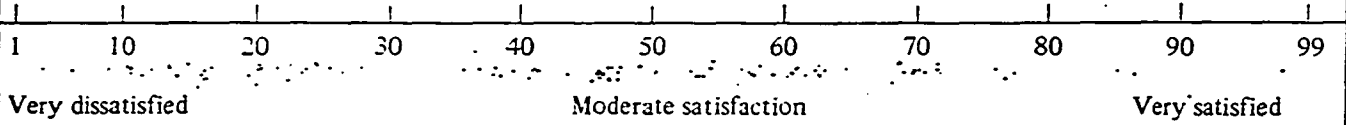
When responding to the statements below, use the following scale



SCALE NO. 2

The degree to which I achieved satisfaction

When responding to the statements below, use the following scale



Please remember to respond twice to every statement

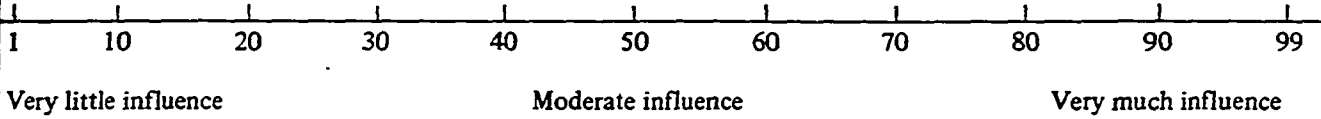
COLUMN I

COLUMN II

- \_\_\_\_\_ 21. to study for its own sake \_\_\_\_\_
- \_\_\_\_\_ 22. share a common educational experience with my spouse \_\_\_\_\_
- \_\_\_\_\_ 23. pursue a path of intellectual curiosity \_\_\_\_\_
- \_\_\_\_\_ 24. gain greater acceptance by others \_\_\_\_\_
- \_\_\_\_\_ 25. share concerns and attitudes with others \_\_\_\_\_
- \_\_\_\_\_ 26. involve myself in personal research \_\_\_\_\_
- \_\_\_\_\_ 27. it is always good to get back to ISU \_\_\_\_\_
- \_\_\_\_\_ 28. develop a common interest with my spouse \_\_\_\_\_
- \_\_\_\_\_ 29. escape the intellectual narrowness of my job or of being a housewife \_\_\_\_\_
- \_\_\_\_\_ 30. get a chance to express ideas I had been thinking and reading about \_\_\_\_\_
- \_\_\_\_\_ 31. curiosity about seminar topic(s) \_\_\_\_\_
- \_\_\_\_\_ 32. improve my knowledge to better serve my community \_\_\_\_\_
- \_\_\_\_\_ 33. enjoy the satisfaction that comes from learning \_\_\_\_\_
- \_\_\_\_\_ 34. satisfy a desire to be active \_\_\_\_\_
- \_\_\_\_\_ 35. associate with others having similar interests \_\_\_\_\_
- \_\_\_\_\_ 36. engage in the discussion of ideas and opinions \_\_\_\_\_
- \_\_\_\_\_ 37. improve my ability to analyze and criticize arguments \_\_\_\_\_
- \_\_\_\_\_ 38. talk with people who have more intellectual interests than my usual "social" friends \_\_\_\_\_
- \_\_\_\_\_ 39. supplement an unduly narrow college training \_\_\_\_\_
- \_\_\_\_\_ 40. broaden my outlook \_\_\_\_\_

Extent to which each of these reasons influenced me to participate

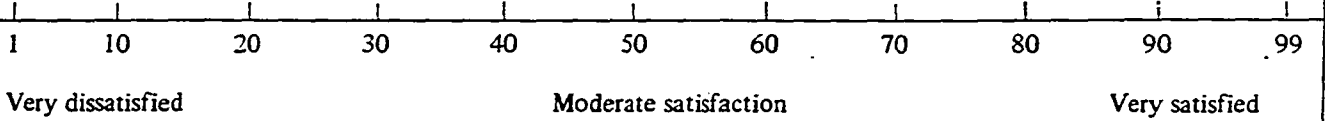
When responding to the statements below, use the following scale



SCALE NO. 2

The degree to which I achieved satisfaction

When responding to the statements below, use the following scale



Please remember to respond twice to every statement

COLUMN I

COLUMN II

- \_\_\_\_\_ 41. it is good to be challenged to think about issues
- \_\_\_\_\_ 42. escape the intellectual narrowness of my community
- \_\_\_\_\_ 43. find solutions to contemporary social problems
- \_\_\_\_\_ 44. desire to learn and to know
- \_\_\_\_\_ 45. seek relief from boredom
- \_\_\_\_\_ 46. feel a need for more education
- \_\_\_\_\_ 47. learn about faculty ideas and opinions
- \_\_\_\_\_ 48. need to be "forced" into important areas of public concern
- \_\_\_\_\_ 49. to gain insight into myself and my personal problems
- \_\_\_\_\_ 50. gain a better intellectual background for my participation in community organizations and community affairs
- \_\_\_\_\_ 51. discuss social problems with which we must learn to live
- \_\_\_\_\_ 52. satisfy a deep curiosity about life and ideas
- \_\_\_\_\_ 53. become acquainted with congenial people
- \_\_\_\_\_ 54. introduce me to new ideas which I can further explore on my own
- \_\_\_\_\_ 55. help overcome the frustrations of day to day living
- \_\_\_\_\_ 56. exchange ideas with ISU faculty
- \_\_\_\_\_ 57. find intellectual enrichment and mental stimulation
- \_\_\_\_\_ 58. fulfill a need for personal associations and friendships

Please list other reasons not identified above:

- 1. \_\_\_\_\_ 3. \_\_\_\_\_
- 2. \_\_\_\_\_ 4. \_\_\_\_\_

This section of the questionnaire contains a number of brief statements describing different kinds of actions you have taken as a result of your participation in one or more of the Alumni Seminars.

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Please mark each action item *yes* or *no*. For each item marked *yes*, use the scale to the right to identify the *degree* of value you feel the seminar(s) contributed to this action.

**EXAMPLE:** If you visited with others who did *not* participate, about a seminar topic or issue, how valuable do you feel the seminar(s) was or were in influencing you to "visit about the topic(s)"?

Actions	If yes, how valuable was/were the seminar(s) in contributing to this action?				
	No	Yes	Very valuable	Some value	No value
Actively discussed an issue related to one or more of the seminar(s), from the floor at a meeting					
Gave seminar reading material to a friend					
Recommended seminar reading material to others					
Gave a speech or talk on the topic(s)					
Visited with others about the topic(s)					
Re-read the seminar material					
Attended other meetings related to the seminar subject(s)					
Used information gained from the seminar(s) in club program(s)-service club, church club, others					
Wrote an article for newspaper, magazine newsletter.					
Joined or formed a new discussion group					
Read additional material related to the subject(s)					
Persuaded others to read about the subject(s)					
Used information gained from the seminar(s) in teaching school students					
Enrolled in other courses concerned with the same or similar topics					
Other: Indicate actions not included in the above					

#### SECTION IV—Iowa State University Alumni Educational Needs

The following question refers to the educational needs you have that might possibly be provided by Iowa State University. Two "kinds" or "types" of educational experience are listed:

1. non-credit meetings such as short courses, conferences, workshops etc. . .
2. Courses for academic credit (undergraduate and graduate level)

##### NON-CREDIT PROGRAM DEFINITIONS

*Home and family living* includes program topics such as: information on use and buying home products, family finance (money management and planning), information on food and nutrition, family relations, estate planning

*Liberal education programs* aim at developing *man's mind by encouraging "thought,"* fact finding and evaluating—examples would be: Great Books program and programs dealing with philosophical concepts (i.e., man's reason for being and his place in the universe)

*Cultural programs* include the fine arts and performing arts—fine art programs concerned with art and painting exhibitions, musical productions, sculpture etc. . . performing art programs concerned with dance, ballet, drama etc. . .

*Local-national programs* concerned with social, political and economic issues include: environmental problems (physical and ecological), influences of technology on society, changing educational patterns and needs, problems and alternatives relating to the financing of public services, impact of legislation on the individual and community, taxation and community services

Local-national programs concerned with social, political and economic issues include: area studies, influence of China, Russia,

*Professional and skill growth programs* are concerned with improving and aiding one to be a "better" farmer, business manager, skilled technician, engineer, banker, etc. . .

Please check the item(s) in both areas (non-credit and academic credit) which are most indicative of your educational needs.

**NON-CREDIT**

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	Definitely need	Probably need	Definitely <i>do not</i> need
Home and family living programs*			
Professional and skill growth programs*			
Liberal education programs*			
Cultural programs*			
Local-national programs concerned with social, political and economic issues*			
International programs concerned with social, political and economic issues*			

\* See definitions on previous page

**ACADEMIC CREDIT**—list the subject(s) or area(s) of interest to you; i.e., family environment, mechanical engineering, agronomy, guidance, etc. . .

*Undergraduate level*

1. _____			
2. _____			
3. _____			
4. _____			

*Graduate level courses*

1. _____			
2. _____			
3. _____			
4. _____			

The next question is concerned with your involvement in college or university credit courses since leaving Iowa State (either as an undergraduate or graduate student).

I last attended a college or university course for credit in 19\_\_\_\_. (write in the year)

I *have not* attended a college or university course for credit since leaving Iowa State \_\_\_\_\_

# Iowa State University Alumni Association

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September 27, 1971

Dear

In 1966, the first Iowa State University alumni seminar was presented. This pilot or experimental program proved to be so well received by the participating alumni and their spouses that subsequent seminars have been presented each year.

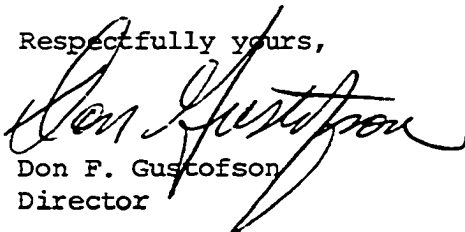
These programs have been jointly conceived by Iowa State University and the Iowa State University Alumni Association to:

1. better fulfill a responsibility to the alumni and their needs for continuing education.
2. provide an opportunity for the alumni and faculty to share a common educational experience.

Iowa State University recognizes the relationship between rapid changes taking place within our social system and the associated needs of its alumni to the most meaningful continuing education experiences. And, in order for Iowa State University to meet the changing educational needs of its alumni and improve these and other educational experiences, continual research and evaluation is necessary. Mr. George Ebert, who has been directly involved with the alumni seminar programs, has developed a study which will provide evidence and data for future alumni continuing education programming.

Therefore, as a past participant in one or more of the alumni seminar programs, I would like to ask your cooperation in this study by completing the enclosed questionnaire. Instructions are printed on the cover of the questionnaire and a self-addressed, postage-paid envelope is enclosed for the return of your completed questionnaire. Thank you for your participation in this study.

Respectfully yours,



Don F. Gustofson  
Director



MEMORIAL UNION ■ IOWA STATE UNIVERSITY ■ AMES, IOWA 50010 ■ PHONE 515 294-4607

Iowa State University *of Science and Technology*



Ames, Iowa 50010

University Extension

Address reply to:  
Extension Courses and Conferences  
Curtiss Hall

November 11, 1971

Re: Iowa State University Alumni Seminar Questionnaire

The response from alumni and spouses who have participated one or more times in these seminars has been most gratifying. And, to assure that the results of this study will be as meaningful as possible we are aiming at a particularly high return. Your response will also contribute greatly to this study.

Anticipating that something might have happened to the first questionnaire, I have enclosed another for you. Please take a few minutes and complete this questionnaire and return in the stamped, self-addressed envelope. Thank you for your cooperation and time.

Sincerely yours,

A handwritten signature in cursive script that reads "George H. Ebert".

George H. Ebert



APPENDIX C: ROTATED FACTOR LOADING  
MATRIX (Denormalized)

Table 52. Rotated factor loading matrix (denormalized)

Questionnaire Item	Factor 1	Factor 2	Factor 3	Factor 4	Factor 5	Factor 6
1	-0.55086	-0.10842	-0.05860	-0.03263	0.02101	0.09979
2	-0.03780	-0.19091	0.08025	-0.67003	0.08653	0.01166
3	-0.33719	0.04124	0.54438	0.00950	0.08038	0.13329
4	-0.27136	-0.10420	0.17613	-0.41320	0.11793	0.12757
5	-0.10889	-0.28081	0.03361	-0.66934	0.06005	0.09825
6	-0.55270	0.17806	0.28524	0.08786	0.11501	0.21674
7	-0.06232	-0.23008	0.17151	-0.61920	0.07929	-0.00071
8	-0.67681	0.09650	0.10032	-0.26440	0.10645	-0.05955
9	-0.64408	0.09493	0.25308	-0.19885	0.11856	0.09047
10	-0.12345	-0.17860	-0.11208	-0.53915	0.11808	0.37220
11	-0.42535	-0.13211	0.10309	-0.44836	0.05320	0.29193
12	-0.13931	-0.11859	0.53167	-0.17354	0.11597	0.11009
13	-0.58556	-0.10038	0.36459	-0.01517	0.03354	0.12062
14	-0.18465	-0.22656	0.14770	-0.21387	0.16681	0.32799
15	-0.25351	-0.18400	0.05408	-0.44619	0.10286	0.21901
16	-0.46568	-0.00682	0.11487	-0.52122	0.21228	-0.04947
17	0.01220	-0.39727	0.08259	-0.20730	0.73554	0.10135
18	-0.22781	-0.19130	0.34668	-0.10944	0.12242	0.24861
19	-0.37351	0.02483	0.42541	-0.11227	0.08633	0.26360
20	-0.18461	-0.15781	0.81549	-0.13934	0.02052	-0.02979
21	-0.38651	-0.40859	0.08774	-0.11140	0.07370	0.30203
22	-0.37062	-0.01424	-0.05345	-0.19766	-0.03501	0.63350
23	-0.60663	-0.12845	0.25194	-0.03835	0.00304	0.19043
24	0.04712	-0.63188	0.10167	-0.38217	0.15190	0.05681
25	-0.47375	-0.00230	0.33190	-0.31060	0.07615	0.04355
26	-0.32045	-0.38435	0.29823	-0.03672	0.01265	0.12138
27	-0.17919	-0.08532	0.20301	-0.54864	0.03260	0.05999
28	-0.26254	-0.13035	0.12760	-0.36073	0.02639	0.52005
29	-0.18601	-0.59050	0.09388	-0.03521	0.13327	0.13157
30	-0.36354	-0.31707	0.32674	-0.19219	-0.05679	-0.08554
31	-0.42718	-0.11067	0.25280	0.01342	-0.03768	0.21643
32	-0.22632	-0.12985	0.82562	-0.16369	-0.05144	-0.09160

Table 52 (Continued)

Questionnaire Item	Factor 1	Factor 2	Factor 3	Factor 4	Factor 5	Factor 6
33	-0.72148	-0.19405	0.26762	-0.17655	-0.06913	0.13480
34	-0.24579	-0.42826	0.36918	-0.37982	-0.15586	-0.11039
35	-0.33689	-0.13572	0.25899	-0.52884	-0.11643	-0.11414
36	-0.74798	0.01723	0.13237	-0.33637	0.05891	-0.15600
37	-0.26951	-0.41622	0.24952	-0.25449	0.04637	-0.26216
38	-0.25459	-0.45701	0.15664	-0.18938	0.10933	-0.16067
39	-0.01623	-0.59567	0.06727	-0.16535	0.63920	0.01313
40	-0.50443	-0.19454	0.29025	-0.21744	0.16243	0.07620
41	-0.68403	-0.16553	0.13517	-0.16293	0.05096	0.10242
42	-0.05063	-0.60259	0.03307	-0.18987	0.05728	-0.09516
43	-0.33207	-0.09410	0.47604	-0.07528	-0.01600	0.05041
44	-0.75912	-0.07285	0.27782	-0.08882	-0.11032	0.11001
45	0.05157	-0.76106	0.02778	-0.14214	0.03459	0.08029
46	-0.39945	-0.40143	0.24375	-0.12013	0.05706	0.12481
47	-0.41502	-0.16780	0.23669	-0.30125	0.02257	0.18978
48	-0.07759	-0.56637	0.11074	-0.21102	0.05842	0.20352
49	-0.10293	-0.64104	0.08171	-0.23744	-0.00267	0.02797
50	-0.25252	-0.24870	0.65588	-0.14764	-0.01797	-0.12680
51	-0.47055	-0.11964	0.29271	-0.16475	-0.06684	0.00908
52	-0.58982	-0.35178	0.14748	-0.09370	-0.10405	0.01942
53	-0.14968	-0.44035	0.07798	-0.70387	-0.05062	0.12890
54	-0.58364	-0.30824	0.21462	-0.14552	-0.17994	0.11103
55	-0.05405	-0.70688	0.07313	-0.21275	-0.01438	0.08060
56	-0.38993	-0.18200	0.09923	-0.44026	-0.03094	0.02673
57	-0.77406	-0.13149	0.08705	-0.13199	-0.08492	0.07375
58	-0.01187	-0.46753	0.04338	-0.63187	-0.09038	0.11396

APPENDIX D: CORRELATION COEFFICIENTS FOR ALUMNI RESPONSES  
TO EACH OF 58 STATEMENTS FROM SCALE 1 AND SCALE 2  
OF THE PARTICIPATION SCALE

<u>Questionnaire Statement</u>	<u>Correlation Coefficient between response on Scale 1 and Scale 2</u>
1. engage myself in mental stimulation	.5295
2. to be with friends and other alums	.5785
3. acquire knowledge that will help me be a more effective citizen	.5410
4. establish intellectual contact with Iowa State University	.5750
5. make new friends	.5393
6. probe topics of significance	.6123
7. renew pride in my university	.4780
8. engage in the discussion of ideas and opinions	.7456
9. hear ideas from others	.6471
10. have a good time	.4820
11. meet with respected faculty	.6864
12. seek to contribute to the "common good"	.6943
13. to satisfy an inquiring mind	.6184
14. participate in a forced reading program	.6699
15. enjoy socially oriented learning activities	.6417
16. exchange ideas and information with other alums	.7488
17. supplement a narrow previous education	.5652
18. become more aware of social problems	.6120
19. keep abreast with present day thought	.5292
20. prepare for service in the community	.7079

<u>Questionnaire Statement</u>	<u>Correlation Coefficient between response on Scale 1 and Scale 2</u>
21. to study for its own sake	.7340
22. share a common educational experience with my spouse	.7949
23. pursue a path of intellectual curiosity	.7882
24. gain greater acceptance by others	.5071
25. share concerns and attitudes with others	.7830
26. involve myself in personal research	.6981
27. it is always good to get back to ISU	.7822
28. develop a common interest with my spouse	.7816
29. escape the intellectual narrowness of my job or of being a housewife	.6831
30. get a chance to express ideas I had been thinking and reading about	.6756
31. curiosity about the seminar topic(s)	.7773
32. improve my knowledge to better serve my community	.7194
33. enjoy the satisfaction that comes from learning	.7472
34. satisfy a desire to be active	.6757
35. associate with others having similar interests	.7199
36. engage in the discussion of ideas and opinions	.7819
37. improve my ability to analyze and criticize arguments	.6990
38. talk with people who have more intellectual interests than my usual "social" friends	.7307
39. supplement an unduly narrow college training	.5287

<u>Questionnaire Statement</u>	<u>Correlation Coefficient between response on Scale 1 and Scale 2</u>
40. broaden my outlook	.6803
41. it is good to be challenged to think about issues	.6964
42. escape the intellectual narrowness of my community	.6088
43. find solutions to contemporary social problems	.5810
44. desire to learn and to know	.7353
45. seek relief from boredom	.3908
46. feel a need for more education	.6724
47. learn about faculty ideas and opinions	.6911
48. need to be "forced" into important areas of public concern	.5693
49. to gain insight into myself and my personal problems	.6588
50. gain a better intellectual background for my participation in community organiza- tions and community affairs	.6375
51. satisfy a deep curiosity about life and ideas	.6508
52. discuss social problems with which we must learn to live	.6972
53. become acquainted with congenial people	.6202
54. introduce me to new ideas which I can further explore on my own	.6972
55. help overcome the frustrations of day to day living	.4946
56. exchange ideas with ISU faculty	.7038

<u>Questionnaire Statement</u>	<u>Correlation Coefficient between response on Scale 1 and Scale 2</u>
57. find intellectual enrichment and mental stimulation	.6990
58. fulfill a need for personal associations and friendships	.6228



APPENDIX E: ADJUSTED MEANS FOR SCALE 1 AND SCALE 2 SCORES  
FOR EACH OF THE 58 STATEMENTS IN THE PARTICIPATION SCALE  
PLUS THE FACTOR NUMBER TO WHICH EACH STATEMENT IS ASSIGNED

Table 53. Adjusted means for participation scale

Questionnaire Item	Factor Assignment	Adjusted Means Scale 1		Adjusted Means Scale 2
1	1	316.6	≥	312.5
2	4	215.4	<	266.3
3	3	291.6	≥	286.1
4	4	259.6	<	282.1
5	4	198.8	<	242.5
6	1	328.5	≥	317.4
7	4	196.0	<	263.5
8	1	316.1	<	320.6
9	1	314.6	<	317.5
10	4	199.9	<	281.5
11	-	246.9	<	287.2
12	3	238.9	<	244.6
13	1	287.7	<	290.6
14	-	211.2	<	249.4
15	4	230.6	<	271.7
16	-	265.8	<	289.9
17	5	169.5	<	226.4
18	-	248.7	<	280.5
19	-	307.1	<	312.7
20	3	227.2	<	246.4
21	-	200.3	<	234.3
22	6	300.8	<	314.6

Table 53 (Continued)

Questionnaire Item	Factor Assignment	Adjusted Means Scale 1		Adjusted Means Scale 2
23	1	275.5	<	285.8
24	2	136.0	<	186.4
25	1	269.6	<	282.4
26	-	206.1	<	234.6
27	4	251.8	<	292.0
28	6	264.9	<	293.2
29	2	209.8	<	257.7
30	-	211.6	<	250.6
31	1	260.4	<	278.8
32	3	229.7	<	253.5
33	1	281.1	<	197.6
34	-	207.3	<	244.7
35	4	253.0	<	282.2
36	1	295.6	<	308.2
37	2	214.7	<	244.3
38	2	238.3	<	266.1
39	5	158.5	<	215.1
40	1	285.4	<	302.6
41	1	299.3	<	315.1
42	2	185.3	<	231.6
43	3	250.5	≥	242.1
44	1	300.8	≥	295.2

Table 53 (Continued)

Questionnaire Item	Factor Assignment	Adjusted Means Scale 1		Adjusted Means Scale 2
45	2	134.6	<	218.1
46	-	247.6	<	263.9
47	-	254.2	<	269.5
48	2	177.1	<	227.5
49	2	155.9	<	194.1
50	3	232.6	<	257.2
51	1	282.0	<	300.5
52	1	258.0	<	266.7
53	4	208.9	<	265.0
54	1	256.4	<	280.8
55	2	148.4	<	203.6
56	-	239.9	<	260.9
57	1	305.4	<	315.5
58	4	182.2	<	232.3

APPENDIX F: OVERALL MEANS FOR SCALE 1 AND SCALE 2 SCORES  
FOR EACH OF THE 58 STATEMENTS IN THE PARTICIPATION SCALE

<u>Participation Scale Statement</u>	<u>Scale 1 Overall Mean</u>	<u>Scale 2 Overall Mean</u>
1. engage myself in mental stimulation	80	78
2. to be with friends and other alums	43	63
3. acquire knowledge that will help me be a more effective citizen	72	70
4. establish intellectual contact with Iowa State University	61	69
5. make new friends	38	54
6. probe topics of significance	82	80
7. renew pride in my university	37	62
8. engage in the discussion of ideas and opinions	80	81
9. hear ideas from others	79	80
10. have a good time	38	68
11. meet with respected faculty	55	71
12. seek to contribute to the "common good"	52	54
13. to satisfy an inquiring mind	71	74
14. participate in a forced reading program	42	56
15. enjoy socially oriented learning activities	49	65
16. exchange ideas and information with other alums	63	72
17. supplement a narrow previous education	27	47
18. become more aware of social problems	56	69
19. keep abreast with present day thought	77	78
20. prepare for service in the community	47	55
21. to study for its own sake	37	50

<u>Participation Scale Statement</u>	<u>Scale 1 Overall Mean</u>	<u>Scale 2 Overall Mean</u>
22. share a common educational experience with my spouse	75	79
23. pursue a path of intellectual curiosity	66	70
24. gain greater acceptance by others	17	32
25. share concerns and attitudes with others	64	69
26. involve myself in personal research	39	51
27. it is always good to get back to ISU	58	73
28. develop a common interest with my spouse	63	73
29. escape the intellectual narrowness of my job or of being a housewife	40	60
30. get a chance to express ideas I had been thinking and reading about	41	58
31. curiosity about the seminar topic(s)	61	67
32. improve my knowledge to better serve my community	49	59
33. enjoy the satisfaction that comes from learning	68	74
34. satisfy a desire to be active	40	54
35. associate with others having similar interests	58	69
36. engage in the discussion of ideas and opinions	74	77
37. improve my ability to analyze and criticize arguments	43	54
38. talk with people who have more intellectual interests than my usual "social" friends	53	63
39. supplement an unduly narrow college training	23	43

<u>Participation Scale Statement</u>	<u>Scale 1 Overall Mean</u>	<u>Scale 2 Overall Mean</u>
40. broaden my outlook	70	76
41. it is good to be challenged to think about issues	75	79
42. escape the intellectual narrowness of my community	31	50
43. find solutions to contemporary social problems	57	54
44. desire to learn and to know	75	74
45. seek relief from boredom	16	44
46. feel a need for more education	55	62
47. learn about faculty ideas and opinions	58	64
48. need to be "forced" into important areas of public concern	28	48
49. to gain insight into myself and my personal problems	22	35
50. gain a better intellectual background for my participation in community organizations and community affairs	50	60
51. satisfy a deep curiosity about life and ideas	60	64
52. discuss social problems with which we must learn to live	69	75
53. become acquainted with congenial people	40	63
54. introduce me to new ideas which I can further explore on my own	59	67
55. help overcome the frustrations of day to day living	20	37
56. exchange ideas with ISU faculty	53	61



<u>Participation Scale Statement</u>	<u>Scale 1 Overall Mean</u>	<u>Scale 2 Overall Mean</u>
57. find intellectual enrichment and mental stimulation	77	79
58. fulfill a need for personal associations and friendships	30	50

APPENDIX G: UNDERGRADUATE AND GRADUATE COURSE NEEDS  
IDENTIFIED BY RESPONDENTS

Undergraduate CoursesUndergraduate

Agricultural and Natural Resources	8
Agricultural Business	
Agriculture (2)	
Animal Science	
Crops and Soils	
Horticulture (3)	
Architecture and Environmental Design	6
Architectural Design	
Architecture (Single, duplex and four family units)	
City Planning	
Landscape Management	
Landscape (2)	
Area Studies	6
Cultural Programs	
Financing Cultural Programs	
International Program (2)	
International Studies	
Local-National Programs	
Biological Sciences	6
Botany	
Beekeeping	
Ecology	
Environment (2)	
Microbiology	
Business and Management	12
Accounting	
Business Administration	
Business Management	
Banker	
Finance	
Investments	
Investment Management	
Money Management and Planning (2)	
Management	
Public Relations	
Taxation	

Undergraduate (Continued)

Communications	3
Communication Skills	
Journalism	
Telecommunicative Arts	
Computer and Information Sciences	3
Computer Program	
Computer Science	
Computer Applications and Techniques	
Education	16
Elementary Education (2)	
Education (5)	
Guidance (6)	
Special Education for the Handicapped	
Speed Reading	
Vocational Education Methods	
Engineering	6
Agricultural Engineering (2)	
Civil Engineering	
Engineering	
Solid State Electronic Technology	
Structural Engineering	
Fine and Applied Arts	12
Art Appreciation	
Art - Painting and sculpture	
Art (5)	
Fine and Performing Arts (3)	
Music (2)	
Foreign Languages	3
Foreign Language (2)	
Language	
Health Professions	2
Veterinary Medicine - Small Animal	
Veterinary Medicine	

Undergraduate (Continued)

Home Economics	35
Child Development (4)	
Clothing Construction	
Experimental Cookery	
Food and Nutrition (2)	
Family Relations	
Family Environment (15)	
Food Technology	
Household Furnishing and Repair Courses - do it yourself	
Home Economics	
Home and Family Living	
Interior Design (4)	
Nutrition	
Textile Design	
Textiles and Clothing	
Law	2
Environmental Law	
Law	
Letters	21
Developmental Reading	
Ethics	
English (2)	
Literature (4)	
Liberal Education (3)	
Liberal Arts (2)	
Morality	
New Testament	
Old Testament	
Philosophy (5)	
Library Science	4
Library	
Library Science (3)	
Mathematics	2
Mathematics	
Statistics	

Undergraduate (Continued)

Physical Sciences	4
Astronomy	
Organic Chemistry	
Physical Chemistry	
Physical Science	
Psychology	7
Psychology (6)	
Salesmanship	
Public Affairs and Services	1
Financing Public Service	
Social Sciences	22
Economics (3)	
Geography	
Government (Local, State, National)	
History	
International Monetary Problems	
International Politics	
International UN, World Government	
Political Science (7)	
Population Control	
Sociology (5)	

Graduate Level CoursesGraduate

Agricultural and Natural Resources	9
Animal Nutrition	
Animal Science (2)	
Agronomy (2)	
Conservation	
Farm Management	
Ruminant and Service Nutrition	
Soil and Water Conservation	
Architecture and Environmental Design	2
Architectural Education	
Community Environment	
Area Studies	2
Cultural	
International	
Biological Sciences	7
Botany	
Environmental Studies	
Ecology	
Local World Environmental Problems	
Microbiology	
Taxonomy	
Zoology	
Business and Management	20
Administration	
Business Financial Management (2)	
Business Ed	
Business Administration (2)	
Corporate Finance	
Financial Controllership	
Grantsmanship	
Human Relations	
Human Development	
Investments	
Marketing	
Marketing - Advertising	

Graduate (Continued)

## Business and Management (Continued)

Management (2)  
 Money Management and Planning  
 Stock Market  
 Taxation  
 Transportation Costs

Communications 4

Communications (3)  
 Telecommunicative Arts

Computer and Information Sciences 3

Computer Systems  
 Computer (How to use)  
 Computer Science

Education 30

Adult Education  
 Counseling (3)  
 Child Guidance  
 Childhood Education  
 Elementary Education  
 Education  
 Elementary Reading Disabilities  
 Guidance (16)  
 Higher Education (2)  
 Methods of Teaching  
 Reading Skills  
 Teaching Skills

Engineering 4

Chemical Engineering  
 Engineering  
 Engineering Mechanics  
 Mechanical Engineering

Fine and Applied Arts 7

Arts and Crafts  
 Art (3)  
 Fine Arts



Graduate (Continued)

## Fine and Applied Arts (Continued)

Fine and Performing Arts	
Music	
Foreign Languages	1
Language	
Health Professions	1
Veterinary Medicine	
Home Economics	42
Changing Patterns in Families, Education, Human relations	
Child Development (2)	
Diet Therapy	
Equipment	
Family Environment (19)	
Family Studies	
Food and Nutrition (3)	
Family Relations	
Family in the Market Place	
Family of the Future	
Home and Family Living (2)	
Home Economics (2)	
Housing	
Home Economic Education (2)	
Personal Relationships	
Textiles (New Things since Graduation)	
Textiles	
Youth	
Law	3
International Law	
Law (2)	
Letters	17
Article Writing	
Creative Writing	
English	
Liberal Art Courses (2)	
Liberal Education	

Graduate (Continued)

## Letters (Continued)

Literature (4)  
 Philosophy (Contemporary)  
 Philosophy  
 Public and Persuasive Speaking  
 Religion  
 Semantics  
 Theology  
 Writing for Technical Education

Library Science 2

Library Science (2)

Mathematics 2

Mathematics  
 Statistics

Psychology 13

Group Dynamics (2)  
 Psychology (7)  
 Personnel Motivation  
 Personnel Handling  
 Political Psychology  
 Understanding People

Social Sciences 39

Anthropology (2)  
 Agriculture Economics  
 Agricultural Policy  
 Business Economics and Finance  
 Changing Social Institutions  
 Engineering Economics  
 Economics (5)  
 Economic Trends  
 Economic Problems  
 History  
 International Relations  
 International UN, World Government  
 Parliamentary Procedure  
 Political Science (6)  
 Political Sociology

Graduate (Continued)

## Social Sciences (Continued)

Research Methodology  
Sociology (9)  
Social Work  
Social and Political Problems  
Treaties  
Urban Economics