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RELATIONSHIP OF LOCUS OF CONTROL AND MOTIVATION OF ADULTS TO PARTICIPATION IN CREDIT AND NON-CREDIT CONTINUING EDUCATION COURSES

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RELATIONSHIP OF LOCUS OF CONTROL AND MOTIVATION
OF ADULTS TO PARTICIPATION IN
CREDIT AND NON-CREDIT CONTINUING EDUCATION COURSES

DISSERTATION

Presented in Partial Fulfillment of the Requirements for
the Degree Doctor of Philosophy in the Graduate
School of The Ohio State University

By

Janice Turk Adkins, A.B., M.S.

* * * * *

The Ohio State University
1981

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This dissertation is dedicated to my husband Syl and to Les and Steve, our sons. Their extraordinary support and unwavering encouragement made the impossible possible.
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CHAPTER I
INTRODUCTION

The study of adult learners is historically recent when compared to studies regarding children and adolescents. Even in institutions of higher education, interest in the characteristics and the needs of adults as learners has been limited. Persons interested in the adult learner usually were involved in areas labeled university extension, adult education, or continuing education. These areas generally related more to the service function of universities and, as such, received less attention and funding than the more traditional functions of teaching and research.

University interest in the adult, at least as student or potential student, has heightened and become more central in recent years. One factor stimulating this interest has been a projected decline in the available number of traditional aged college students. "Population projections indicate that the number of persons in the 18-21 age range will peak in 1980, then decrease dramatically at least until 1990" (Baldridge et al., 1978, p. 272). Since funding from tuition and from government monies is often directly related to
enrollment figures, economic considerations dictate more attention to the adult population of university students.

Rapid technological and social changes have propelled larger numbers of adults to learning activities. They must learn in order to survive personal, career, and leisure time adjustments. Many have chosen enrollment in institutions of higher education as one avenue of attempting to have their learning needs met. One major state university recently reported that nearly 25 percent of its total student population is 25 years of age or older (Office of Planning Studies, The Ohio State University, Autumn Quarter 1979).

Although Ivan Illich (1971) and others have denounced "the ritual of schooling," adults who choose the university setting in which to learn deserve to receive opportunities in keeping with their characteristics as learners. This will require research in order to offset earlier inattention by higher education planners to study of the adult learner. Administrators and educators who acknowledge the symbiotic nature of the university's current relationship to the adult learner will very likely welcome the findings of such research as an aid to appropriate and effective program planning. Those who have long been interested in the characteristics and needs of the adult learner will look for an additional piece of knowledge that will aid in the understanding of those characteristics and needs.
The Problem

The problem investigated in this study may be stated as follows:

What similarities and differences are there between adults enrolled in continuing education non-credit courses and adults enrolled in continuing education credit courses of The Ohio State University on selected demographic factors, generalized expectancy for internal versus external control of reinforcement, and expressed reasons for participation in continuing education offerings?

Demographic variables included in this study are: place of residence, previous educational attainment, age, sex, marital status, total annual family income, and occupation.

Generalized expectancy for internal versus external control of reinforcement is the major independent variable and was measured using Rotter's (1966) Internal-External Locus of Control Scale (I-E Scale).

Expressed reasons for participation in continuing education offerings were measured using Boshier's (1971) Education Participation Scale (EPS). Factors derived from the EPS by Morstain and Smart (1974) were used for analysis of data from the EPS. They labeled these factors as: Social Relationships (SR), External Expectations (EE), Social
Welfare (SW), Professional Advancement (PA), Escape/Stimulation (ES), and Cognitive Interest (CI).

A copy of the survey instrument is included as Appendix B.

Significance of the Problem

The need for each university to take into account the changing educational needs of groups to be served requires much research, "both basic and applied" (Hesburgh et al., 1973, p. 25).

Kidd's opinion was that "... systematic research in connection with adult learning has been infrequent and incomplete" (Kidd, 1973, p. 299).

Frymier stated, "All that affects human behavior should be of interest to educators. The better we know man, the better our educational designs will serve him" (Frymier, 1974, p. 6).

Morstain and Smart stated, "If postsecondary institutions wish to be genuinely responsive to the needs and interests of adult learners, it would seem essential to know something about the kinds of adult learners it attracts and attempts to serve" (Morstain and Smart, 1977, p. 677).

Boshier called for "a moratorium on further factoring of motivation instruments and a concomitant re-focusing on multi-variate analysis of the antecedents and consequences of motive for participation" (Boshier, 1977, p. 113).
The Advisory Panel on Research Needs in Lifelong Learning during Adulthood (1978) has included "learner characteristics" on its agenda of current research needs. Personality influences on motivation was one of the topics given priority status.

From the standpoint of the researcher, this study is to be considered more in the sphere of basic research as distinguished from applied research. It would seem likely, however, that the findings, when fit together with other knowledge regarding the characteristics of adult learners, may find applicability in program development for adult students.

There may be findings of immediate interest to the Office of Continuing Education of The Ohio State University. Kreitlow suggested in Handbook of Adult Education (1970) that study of the adult as a learner can be expected to benefit adult educators by strengthening the "approach to both the organization and the operation of programs" (Smith, Aker, and Kidd, 1970, p. 142).

**Definition of the Term "Adult Student"**

For the purpose of this study, the term adult student was defined as a student twenty-five years of age or older who was enrolled in a credit or non-credit course of the Office of Continuing Education of The Ohio State University during the Spring Quarter of 1980.
Hypothesis and Related Questions

The hypothesized relationship tested in this study was:
Adult students perceiving internal expectancy for control of reinforcement will more frequently enroll in continuing education credit courses and adults perceiving external expectancy for control of reinforcement will more frequently enroll in continuing education non-credit courses.

Locus of control was the major independent variable.

Demographic variables and motivational factors were also viewed as independent variables. The following questions guided the investigation of these variables in relation to the dependent variable:

1. Do adult students in continuing education credit courses differ from adult students in continuing education non-credit courses when described according to the demographic variables of place of residence, previous educational attainment, age, sex, marital status, total annual family income level, and occupation?

2. Do adult students in continuing education credit courses differ from adult students in continuing education non-credit courses in the motivational factors which describe their reasons for participating in continuing education courses?
The following question guided study of the relations among variables in the two samples:

Which of the independent variables (demographic factors, locus of control, motivational factors) best predicts group membership in continuing education credit courses or in continuing education non-credit courses?

Supporting Rationale for Hypothesis

Rotter's social learning theory of personality (Rotter, 1954) was developed "as an attempt to account for human behavior in relatively complex social situations" (Rotter, Chance, and Phares, 1972, p. 1). A reminder is given that a conceptual system is a particular way of viewing reality. Concepts are not entities but are abstractions used to represent reality. Conceptual terms are useful for descriptions of events that can lead to prediction of events (Rotter, Chance, and Phares, 1972).

Social learning theory utilizes four basic concepts in the prediction of human behavior. These concepts are:

1. Behavior Potential -- The potential for any given behavior to occur in relation to the other alternatives available in a given situation.

2. Expectancy -- The probability held by the individual that a particular reinforcement (reward) will occur as a function of a specific behavior on his part in a specific situation or situations.
3. Reinforcement Value -- The degree of preference for any reinforcement to occur if the possibilities of their occurring were equal.

4. Psychological Situation -- Aspects of the environment to which the individual responds. In addition to the subjective meaning that a person gives to a situation, the situation can also be objectively described "in terms of the kinds of reinforcements that are available" (Rotter and Hochreich, 1975, p. 99).

For the purpose of this study, academic credit was considered the reinforcement or reward in question. Our society places strong emphasis on academic credentials. Harrington (1977), Hesburgh et al. (1973), Hiemstra (1972), and Illich (1971) have joined others in warning against equating education with schooling. Harrington, however, realistically commented, "Still, credits and degrees do count in the workaday world, and are certain to be important for years to come. Credits count for hiring and for promotion, for admission into professions, and for status and personal satisfaction" (Harrington, 1977, p. 37).

A major finding of Rotter and others has been that the efficacy of a reward or reinforcement on behavior depends on whether or not the individual believes he has control over the outcome of the situation in which the reward is offered.
If the person perceives that his behavior is the determinant, this is referred to as a belief in or generalized expectancy for internal control of reinforcement. If the person perceives that the outcome hinges on luck, chance, fate, or the control of powerful others, this interpretation is termed a belief in or generalized expectancy for external control of reinforcement. According to social learning theory, psychological behavior is learned behavior. A person's past experiences will cause him to perceive generally that he does or does not have control over the outcome of most situations in which he is involved. Generalized expectancy for internal versus external control of reinforcement is a broad dimension of social learning theory (Rotter, 1966; Rotter, Chance, and Phares, 1972; Rotter and Hochreich, 1975).

The hypothesized relationship between an adult student's locus of control and his choice of credit versus non-credit continuing education courses was based on the following premise:

A person who perceives that his behavior controls the acquiring of socially desirable academic credit will show more overt striving for that particular reward or reinforcement by enrolling in a course where such credit is granted. A person who does not perceive that his behavior controls the acquiring of socially desirable
academic credit will avoid the possibility of failing to reap that particular reward or reinforcement by enrolling in a course where such credit is not granted.
CHAPTER II

REVIEW OF RELATED LITERATURE

Changing Climate for Adult Education

Change in emphasis from initial training to continual education, or lifelong education, requires that educational systems be adapted to include adults. UNESCO's International Commission on the Development of Education called for adjustments that would respond to the educational needs of all socio-economic groups. Social change, economic considerations, and changing ideologies were named as some of the pressures demanding that education be made more democratic. The Commission listed actions needed for making democratization of education a reality. The actions incorporate changes that allow for inclusion of adults:

... Educational structures must be remodelled, to extend widely the field of choice and enable people to follow lifelong education patterns. Subject-matter must be individualized; pupils and students must be aware of their status, their rights and their own wishes; authoritarian forms of teaching must give way to relationships marked by independence, mutual responsibility and dialogue; pedagogical training must be geared to knowing and respecting the multiple aspects of human personality; guidance must replace selection; those making use of educational institutions must participate in their management and policy-making; the bureaucratic
aspects of educational activity must be broken down and its administration decentralized (Faure et al., 1972, pp. 79-80).

In addition to influence of the lifelong education concept, other factors have forced a change in the attention granted adult students and their educational needs. Since World War II, the increased demand for further education has raised the number of adults on college campuses to a visible and significant level. A conviction that existing facilities could be utilized more efficiently has aligned with budgetary concerns to permit program hours more conducive to adult needs. Social pressure has created more widespread acknowledgment of the view that access to education opportunity is a basic right of all persons. This view has caused institutions of higher education to amend restrictive administrative practices (Ironside and Jacobs, 1977).

Harrington (1977) evaluated the decision to broaden educational opportunity for all Americans as one of the most dramatic changes in postsecondary adult education in recent years. He considered the success of continuing professional education as the other major development. Both of these changes increased the number and visibility of adult students. Increased participation in adult education in concert with changes such as decline in the number of traditional aged college students and heightened interest in adult education as a field of study have led to changes in
the climate for adult education. These changes encourage and demand research regarding the adult learner.

Characteristics of Adult Learners

Adults have characteristics that affect their learning and that distinguish them from the child or adolescent learner. Physical and sensory changes associated with aging may result in deficits which require compensating efforts in the educational setting and in the learner.

Beyond physiological differences are psycho-social attitudes which affect adults. The false assumption that all adults will have difficulty learning new information or skills is a prevalent social attitude which the individual adult must overcome. Some adults may also have to deal with negative emotions associated with learning which derive from unpleasant or unrewarding learning experiences during their own childhood (Kidd, 1973).

Knowles (1970) presented four basic ideas about the characteristics of adult learners. There is a change in self-concept. The adult perceives himself as being responsible for making decisions affecting his life. He becomes increasingly self-directed rather than retaining the dependent personality of the child whose decisions are largely made for him by others. The adult is likely to respond positively to opportunities for managing his own learning.
An adult brings a richer background of experience to the learning situation than does the child. The adult's varied and extensive experiences help define who he is to himself and to others. Acknowledging the worth of these experiences as a learning resource is to acknowledge the worth of the person. Actual experience also helps the adult plan practical applications of new learning. Learning to learn from past experiences by analyzing them more objectively can help adults overcome a tendency toward closed thought patterns based on those very experiences.

Readiness to learn for the child or adolescent is tied to developmental tasks based on physical and mental changes. Developmental tasks oriented to his changing social roles determine the adult's readiness to learn. Consideration of the roles currently influencing an adult's learning needs ensures greater congruence between subject, content, and the learner's objectives.

The norm of children's attitudes toward educational activity is deferred application of learning. Adults usually have in mind an immediate use of any learning they undertake. They, then, tend to have a problem-centered orientation to learning. This difference in perceiving when the learning is to be used means that the adult educator must plan educational offerings in terms of adult interests, roles, needs, and problems rather than only according to an arbitrary sequence of subjects.
Knox (1977) used personality characteristics of adults as one of six major topics around which to organize his extensive book on adult development and learning. He defined the concept of personality as "the characteristics and tendencies that provide continuity across specific times and situations and enable the individual and others to predict likely thoughts, feelings, and actions" (Knox, 1977, pp. 316-317).

Changes occurring in personality tendencies of the individual adult may be influenced by evolving developmental stages. Although adult personality patterns in general are quite varied, some changes occur even here which seems to be related to adult phases of development.

Some central aspects of personality which evidence "adult life cycle shifts" are self-concept, decision making, attitudes, moral development, and adaptation. Changes in these aspects are accounted for essentially by employing the transactional model of personality development. Biological, experiential, societal, and historical systems are interrelated influences on the individual as he interacts with his environment.

Awareness of personality characteristics as persistent and yet subject to change creates opportunity for adult educators to predict some behaviors of adult learners while still moving to facilitate changes desired by the individual adult (Knox, 1977).
Data collected from over thirty surveys and summarized by K. Patricia Cross (Peterson and Associates, 1979) resulted in these conclusions about adult learning needs:

1. Most adult learners choose education offerings where they can learn to do something which is of immediate, practical use to them. Traditional discipline-oriented subjects are likely to be popular only with degree-oriented learners.

2. Rewards such as better jobs or more pay motivate adults whose basic economic and educational attainments are low. Rewards related to personal fulfillment motivate only those persons whose basic necessities have been met.

3. Motivational factors may be more of a barrier to continued learning than surveys have revealed. Environmental factors such as cost may be reported more frequently because they are more socially acceptable. Also, adults lack knowledge of actual barriers.

4. Adults pay less attention to "convenient" locations and schedules than would be anticipated. They seem to respond more to their perceiving that the subject matter is credible and is appropriate to the location or schedule regardless of the convenience factor.
5. Most adults respond more positively to interactive and active modes of learning than to passive modes such as listening or watching.

**Motivations for Adult Learning**

Adults have reported various reasons for engaging in learning activities.

Houle (1961) classified adult learners as being goal oriented, learning oriented, or activity oriented. This typology was based on intensive interviewing of several adults who had participated in continuing education courses. The goal oriented learner was described as having a fairly well defined objective in mind when he begins a learning activity. He chooses those activities which he perceives will be of direct aid in attaining his goal. The learner who seeks knowledge for its own sake was designated as learning oriented. The activity oriented learner was depicted as one who may participate in educational activities in order to satisfy needs not directly related to the learning dimension of the situation. The activity oriented learner may participate in order to satisfy a social need to interact with others.

Harvey (1978) requested participants in non-credit continuing education courses at The Ohio State University to self-select themselves into one of Houle's three learner categories. Over forty-four percent of the respondents
classified themselves as being goal oriented; slightly over thirty-six percent classified themselves as being learning oriented; and almost twenty percent classified themselves as being activity oriented. Reasons for participation in the course were indicated by prioritizing value-expectancy statements. Seventy percent of the activity oriented students gave highest priority to statements in keeping with social interaction and escapism needs. Fifty-five percent of the goal oriented students gave highest priority to a statement related to increasing work effectiveness. Fifty percent of the learning oriented students chose a statement indicating learning for the enjoyment of learning as their highest priority.

Tough (1979), like Houle, also used intensive interviews of adult learners to study, among other things, why adults learn. He refined his original thirteen categories into three "clusters" of ultimate benefits which learners anticipate when they begin a learning project. The terms pleasure, self-esteem, and others seemed to allow for all responses his investigations brought forth. Two important points made were that (1) a significant portion of a person's total motivation for learning is constituted by benefits he anticipates from the learning and that (2) any one of the clusters of benefits identified can, in turn, produce the other two benefits.
A major contribution of Tough's (1979) research was the finding that most adult learning is self-planned rather than being planned by the educator. The self-directed learner utilizes human and non-human resources to varying degrees depending on the nature of his learning project.

Johnstone and Rivera (1965) reported research on the educational activities of nearly 24,000 adults. Their survey revealed that participation rates in adult education were higher for adults with more formal education, declined with age, and were comparable for men and women over time. Persons with lower socioeconomic status participated for vocational reasons, especially preparation for a new job, and for homemaking reasons. Persons with higher socioeconomic status participated for occupational reasons, primarily for advancement on the present job, and showed an increase in participation related to community and leisure concerns. Higher participation rates than expected on the basis of age and educational level were associated with the attitudinal characteristic of a sense of educational efficacy, a belief that further education enables a person to gain mastery over his life and surroundings.

The central thrust of Burgess' (1971) hypothesis was that "reasons given by men and women for participating in educational activities will factor into limited number of groups" (Burgess, 1971, p. 27). This was accepted based on
research conducted in St. Louis. Seven factors were identified and were named: the Desire to Know; the Desire to Reach A Personal Goal; the Desire to Reach a Social Goal; the Desire to Reach A Religious Goal; the Desire to Take Part in Social Activity; the Desire to Escape; and the Desire to Meet Formal Requirements.

Boshier's (1971) initial factoring of his Education Participation Scale (EPS) in a New Zealand study revealed fourteen common factors involved in adult motivation. Later research (Boshier, 1977) involving EPS data from adult education participants in Vancouver, Canada resulted in the identification of five factors. These factors were named: Escape/Stimulation; Professional Advancement; Social Welfare; External Expectations; and Cognitive Interest (Learning Orientation). It was noted that the structure of the factored EPS items in this study was "remarkably similar" to factors identified by Morstain and Smart in their 1974 study.

Morstain and Smart (1974) administered the EPS to a sample of adults enrolled in part-time, degree-credit courses at a state college in New Jersey. Factor analysis of the data resulted in six dimensions which were titled: Social Relationships; External Expectations; Social Welfare; Professional Advancement; Escape/Stimulation; and Cognitive Interest.
Wolfgang (1979) used Morstain and Smart's (1974) factoriing of the EPS in her study of reasons for participation for degree oriented adults and degree oriented traditional aged students in University College of The Ohio State University. Findings pertinent to age and motivational factors revealed that adult students scored significantly higher than younger students on only one motivational factor, Cognitive Interest. There was little difference between the two groups on the factors of Social Welfare and Escape/Stimulation. Scores for younger students were significantly higher on the motivational factors of Social Relationships and Escape/Stimulation. Multiple regression analyses did not confirm the ANOVA finding of significantly higher scores for younger students on the factor of Professional Advancement.

Cluster analysis of individual factor score patterns was used in The Ohio State University study to create motivational profiles of learner types. Motivational profiles of learner types identified by Wolfgang (1979) differed from those reported by Morstain and Smart (1977). Differences in university environment, in degree orientation, or in motivation of part-time versus full-time students were suggested as possible influences on learner type profiles.
Rotter's Social Learning Theory

Rotter (1954) defined personality as "a term or construct describing the aspect of a unified, complexly organized person that has to do with his characteristic modes of behaving or of interpreting the world in which he lives" (Rotter, 1954), p. 82). Social learning theory (SLT) is presented as a field theory approach to personality. In field theory, and thus in SLT, emphasis is on the interaction of the individual and his meaningful environment. Meaning is given to a social situation (environment) on the basis of the individual's previous experiences. SLT proposes that the study of personality is the study of learned behavior, behavior that is modifiable.

Rotter's position is congruent with Bandura's (1977) social learning theory in that learned behavior may be based on direct experience or on observation and imitation, although modeling is not a significant concept in Rotter's theory.

One of the basic assumptions of SLT is that personality has unity. This is not the idea of a fixed core of characteristics determining behavior. It is rather that a person's past and present experiences (his interactions with his environment) influence each other. New experiences are influenced by what has been learned in the past. Old meanings or learnings acquired from past experiences can be changed due to the influence of new experiences.
Continual interactions between the individual and his environment ensure that personality does not become fixed at some point of development; it is continually subject to change. Behavior can be modified. Selection of new experiences, however, tends to be based on previous experiences, so personality becomes more stable as the individual becomes more experienced.

SLT utilizes four basic concepts in the prediction of human behavior. These concepts are: Behavior Potential; Expectancy; Reinforcement Value; and Psychological Situation. The concept of expectancy is of particular importance to this study.

Expectancy is defined as "the probability held by the individual that a particular reinforcement will occur as a function of a specific behavior on his part in a specific situation or situations" (Rotter and Hochreich, 1975, p. 99). A generalized expectancy is one which is held by the individual across situations which he perceives as similar. A reinforcement, or reward, is perceived differently by different persons.

The dimension of SLT with which the hypothesis for this study is concerned is generalized expectancy for internal versus external control of reinforcement. This dimension is not concerned with the degree to which people are controlled by internal states or desires versus the degree to
which they are controlled by external forces, such as social or conformity forces. This dimension focuses on where a person perceives the locus of control for reinforcement lies. A person who perceives a causal relation between his behaviors and reinforcements or rewards available is said to have a belief in or generalized expectancy for internal control of reinforcement. One who perceives that available reinforcements or rewards accrue or do not accrue to him as a result of luck, chance, fate, or the control of powerful others is said to have a belief in or generalized expectancy for external control of reinforcement. Persons who generally believe or expect that they have control over the outcomes of their life situations can be expected to make different choices, to exhibit different behaviors, than those who do not. This is true also of groups of persons. (Rotter, 1954, 1966, 1971; Rotter, Chance, and Phares, 1972; Rotter and Hochreich, 1975.)

Falconer (1974) found that locus of control was not significantly related to an adult’s degree of participation in learning activities. His research at Indiana University surveyed a total of ninety-four adult subjects.

Bertinot’s research (1978) at The University of Oklahoma investigated choice of learning format as a function of three constructs, one of which was locus of control. Locus of control accounted for only four percent of the variance as a predictor of educational format. Bertinot’s sample
including adult students was of seventy undergraduate university students.

The locus of control orientation may influence educational choices made by adult learners in ways yet to be studied. This study investigates whether or not this dimension of SLT is operative for adult students in a specific situation.

The preceding theory and research strongly suggest the need for further investigation regarding the characteristics of adult learners. This research studies the influence of selected demographic variables, the personality dimension of locus of control, and motivational factors on adult enrollment in credit and non-credit continuing education courses. Findings of this study are to be added to the growing body of knowledge which educators, administrators, and researchers may utilize in efforts to understand adult learners and to plan for meeting their learning needs.
CHAPTER III
METHODOLOGY

Population and Sample

The two samples for this study were drawn from the populations of students who were enrolled in continuing education credit courses or in continuing education non-credit courses of The Ohio State University during the Spring Quarter of 1980. The sample for credit courses was drawn during the third week of the quarter. The sample for non-credit courses was drawn during the fourth week of the quarter. "Enrolled" students were thus those whose registration sheets for credit courses or enrollment cards for non-credit courses remained in active files after initial registration adjustments.

Registration sheets for the entire credit population were filed alphabetically. Enrollment cards for the non-credit population were filed alphabetically by course. Samples from each population were obtained through systematic random sampling. Determination of sample sizes needed was based on a desired 95 percent confidence level, an accepted margin error of +5 percent, and an estimated 50
percent variance in the population on the locus of control variable.

The total enrollment in credit continuing education courses for Spring Quarter 1980 was 2199. The enrollment in non-credit continuing education courses for Spring Quarter 1980 was 1403. In comparable enrollments for Fall Quarter 1979, 90 percent of enrollees in credit continuing education courses and 80 percent of enrollees in non-credit continuing education courses met the present study's age criterion of being 25 years of age or older. These enrollment figures and percentages were supplied by Dr. Tony Basil, administrator of the Continuing Education Credit Programs Services, and by Mrs. Mary Bright, administrator of Continuing Education Non-Credit Programs.

Registration data did not include birth dates for any persons enrolled in non-credit courses and were not available for all persons enrolled in credit courses. Since the focus of this study was on students beyond the traditional college age, the following steps were taken to enhance the probability of including persons 25 years of age or older in the samples:

1. Some non-credit courses were designated for children or teenagers. These were not sampled.

2. Both populations were oversampled.

Using the sample size and age criteria noted above, a sample size of 333 was desired for the credit population and


a sample size of 286 was desired for the non-credit population. A total of 419 subjects was drawn from the credit population, and 320 were drawn from the non-credit population.

The record of response for the samples drawn from each population is shown in Table 1.

**TABLE 1**

**RECORD OF RESPONSE BY SAMPLES DRAWN**

<table>
<thead>
<tr>
<th>Sample</th>
<th>Total Questionnaires Mailed</th>
<th>Usable Responses</th>
<th>Unusable Responses</th>
<th>Nonrespondents</th>
</tr>
</thead>
<tbody>
<tr>
<td>Credit</td>
<td>419</td>
<td>277</td>
<td>34&lt;sub&gt;a&lt;/sub&gt;</td>
<td>108&lt;sub&gt;c&lt;/sub&gt;</td>
</tr>
<tr>
<td>Non-Credit</td>
<td>320</td>
<td>224</td>
<td>30&lt;sub&gt;b&lt;/sub&gt;</td>
<td>66&lt;sub&gt;d&lt;/sub&gt;</td>
</tr>
</tbody>
</table>

- a) Extensive missing data 11
- Age 24 or lower 23
- Returned to sender 6
- Refused to participate 4
- b) Extensive missing data 9
- Age 24 or lower 21
- No response 60
- Returned to sender 1
- Refused to participate 5

A sample size of 333 was desired for the credit population. Two hundred seventy-seven usable responses were received for a return rate of 83.2 percent of sample size desired.

A sample size of 286 was desired for the non-credit population. Two hundred twenty-four usable responses were received for a return rate of 78.3 percent of sample size
desired. Response rate was raised to 80.1 percent for demographic data only by means of nonrespondent follow-up.

A telephone follow-up of five nonrespondents in the non-credit sample was carried out. These subjects were selected at random and were interviewed to determine any differences between respondents and nonrespondents on selected demographic variables. All five of the respondents interviewed were age 25 or older. All five stated their reason for not responding was that they were too busy. A comparison of the demographic variables of the five nonrespondents with respondents in the non-credit sample is shown in Table 2.

**TABLE 2**

**COMPARISON OF NONRESPONDENTS WITH RESPONDENTS IN THE NON-CREDIT SAMPLE**

<table>
<thead>
<tr>
<th>Demographic Variable</th>
<th>Nonrespondents (N=5)</th>
<th>Respondents (N=224)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Residence within Franklin County</td>
<td>100%</td>
<td>92.8%</td>
</tr>
<tr>
<td>Education Level (Bachelor's Degree or less)</td>
<td>100%</td>
<td>59.9%</td>
</tr>
<tr>
<td>Age (mean)</td>
<td>39</td>
<td>40.2</td>
</tr>
<tr>
<td>Sex (percentage of females)</td>
<td>80%</td>
<td>68.7%</td>
</tr>
<tr>
<td>Marital Status (percentage married)</td>
<td>80%</td>
<td>60.3%</td>
</tr>
<tr>
<td>Income Level:</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Median</td>
<td>$24,000</td>
<td>$24,001-28,000</td>
</tr>
<tr>
<td>No Response</td>
<td>20%</td>
<td>3.1%</td>
</tr>
<tr>
<td>Occupation:</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Professional, Technical, Managerial</td>
<td>20%</td>
<td>47.3%</td>
</tr>
<tr>
<td>Clerical, Sales</td>
<td>40%</td>
<td>20.1%</td>
</tr>
<tr>
<td>Homemaker</td>
<td>40%</td>
<td>18.3%</td>
</tr>
<tr>
<td>Other categories</td>
<td>---</td>
<td>14.3%</td>
</tr>
</tbody>
</table>

Response variations were noted on the variables of education level and occupation. All nonrespondents, 100
percent, reported an education level of bachelor's degree or less as compared to 60 percent of the respondents. More than twice as many respondents fell into the professional, technical, managerial category as did the nonrespondents (47 percent respondents; 20 percent nonrespondents). The reverse was true for the categories of clerical and sales (40 percent nonrespondents; 20 percent respondents) and of homemaker (40 percent nonrespondents; 18 percent respondents). Caution is indicated in interpreting findings in these areas as representative of non-credit enrollees.

**Design**

The design for this study was a combination of survey and correlation research. The objective was to determine the degree to which relationships exist between variables identified by the survey instrument. The dependent variable was enrollment status, that is, whether the student was enrolled in credit or in non-credit continuing education courses. The major independent variable was generalized expectancy for internal or external control of reinforcement. Independent, demographic variables included place of residence, previous educational attainment, age, sex, marital status, total annual family income, and occupation. Motivational factors for participating in adult education were also considered independent variables.
Instrumentation

Data were collected by mailed questionnaire. The questionnaire required approximately 15-20 minutes to complete. Part I of the questionnaire requested responses regarding the demographic variables of place of residence, previous educational attainment, age, sex, marital status, total annual family income, and occupation. This information provided descriptive data.

Part II of the questionnaire consisted of Rotter's (1966) Internal-External Locus of Control Scale, referred to as the I-E Scale. The I-E Scale is a twenty-nine item, forced-choice test including six filler items intended to make the purpose of the test more ambiguous. The score is the total number of external choices for the twenty-three authentic items.

The I-E Scale is designed to measure generalized expectancies for internal versus external control of reinforcement. Rotter's social learning theory (Rotter, 1954, 1966, 1971; Rotter, Chance and Phares, 1972; Rotter and Hochreich, 1975) provides theoretical background for the concepts of reinforcement and expectancy as utilized in the I-E Scale. Data from scores on the I-E Scale may be used to analyze group differences in addition to identifying individual differences (Rotter, 1966).

Internal consistency correlations for Internal-External Control data were reported as ranging from .65 to .79. The
data were obtained from a series of samples where the I-E Scale was used.

While these estimates are only moderately high for a scale of this length, it should be remembered that the items are not arranged in a difficulty hierarchy, but rather are samples of attitudes in a wide variety of different situations. The test is an additive one and items are not comparable. Consequently, split-half or matched-half reliability tends to underestimate the internal consistency. Kuder-Richardson reliabilities are also somewhat limited since this is a forced-choice scale in which an attempt is made to balance alternatives so that probabilities of endorsement of either alternative do not include the more extreme splits. (Rotter, 1966, p. 10)

Boshier's (1971) Education Participation Scale (EPS) comprised Part III of the questionnaire. This instrument was originally developed in New Zealand by Boshier to investigate Houle's (1961) typology of adult learners. The EPS contains forty-eight items. Responses are elicited in terms of the degree to which each item influenced a subject's decision to enroll in an adult education course. The nine-point response scale ranges from very little influence (1) to very much influence (9). EPS test-retest item reliabilities were reported as ranging from .44 to 1.00 with an average of .81 (Boshier, 1971).

Boshier's utilization of the EPS in New Zealand and in Canada has been directed toward measurement of motivational orientations of adults in non-degree education courses (Boshier, 1971, 1973, 1977; Boshier and Riddell, 1978; Boshier and Baker, 1979).
Morstain and Smart (1974) used the EPS to examine group differences in expressed reasons for adult participation in part-time, degree-credit courses at Glassboro State College in New Jersey. Adult students were grouped by sex and age for their study.

Wolfgang (1979) examined motivational profiles and their relationship to selected demographic variables for adult and traditional aged students enrolled in University College of The Ohio State University. Factors extracted from the EPS by Morstain and Smart were used by Wolfgang during analysis of data.

The factors derived by Morstain and Smart were also used in this study for analysis of data from the EPS portion of the questionnaire. The factors are defined by Morstain and Smart as follows:

- **Social Relationships (SR).** High scorers on this scale state a need for personal association, participation in group activities, and a desire to make new friends. They also indicate a concern for gaining insight into their personal problems, being accepted by others and sharing an interest with acquaintances. Sample item: "to make new friends."

- **External Expectations (EE).** High scorers on this scale tend to pursue part-time study due to conditions related to instructions, suggestions, and/or requirements from individuals or agencies with which they are
associated. They appear to be seeking to fulfill the expectations of others as opposed to their own intrinsic interests. Sample item: "to comply with my employer's policy."

- **Social Welfare (SW).** The items comprising this scale reflect a general humanitarian concern. High scorers tend to regard their education as preparation for participation in community affairs and service to mankind. Sample item: "to prepare for service to the community."

- **Professional Advancement (PA).** High scorers on this scale tend to perceive their educational preparation as being very vocationally oriented, leading to greater competence and higher status in their chosen occupation. They tend to be highly motivated in relation to their occupation and to possess a strong competitive desire. Sample item: "to give me higher status in my job."

- **Escape/Stimulation (ES).** This scale reflects a need for stimulation or a desire to escape from what might be considered a dull or boring environment. High scorers on this scale tend to regard their coursework as a means of relief from every day boredom and responsibilities, providing a contrast to their daily routine, and overcoming the frustrations of every day life. Sample item: "to get relief from boredom."
• **Cognitive Interest (CI).** The items that comprise this scale reflect a basic inquiry motivation. High scorers tend to report that learning and the pursuit of knowledge for its own sake are important reasons for their decision to undertake further education. Sample item: "to learn just for the sake of learning." (Morstain and Smart, 1977, p. 669.)

**Validity of the Instrument**

Rotter's (1966) Internal-External Locus of Control Scale (I-E Scale) and Boshier's (1971) Education Participation Scale (EPS) are discrete parts of the questionnaire used in this study. The American Psychological Association's classification of types of validity was recommended by Kerlinger (1973). Each scale was considered in terms of content, criterion-related, and construct validity.

The personality dimension of generalized expectancy for internal versus external control of reinforcement has been the focus of numerous studies in psychology and in education using the I-E Scale. The I-E Scale resulted from refinement of a series of previous tests. Content validity of the scale has been judged adequate since through both developmental refinement and extensive usage, scale items have been judged representative of the concept being measured, generalized expectancy for internal versus external control of reinforcement. Criterion-related validity of the I-E Scale
has been supported by studies which demonstrated that generalized expectancies can be measured and that they are predictive of behavior in various settings. The I-E Scale correlated satisfactorily with other methods of assessing generalized expectancy for internal-external control. There was low relationship with variables such as intelligence, social desirability, and political liberalness. Factor analyses have provided further support for the construct validity of the I-E Scale. Extensive data supporting validity of the I-E Scale was reported in Rotter's 1966 study and has been substantiated in later studies. (Rotter, 1966; Rotter, Chance, and Phares, 1972; Rotter and Hochreich, 1975.)

The EPS has been judged a valid measure of the reasons adults give for participating in adult education activities in settings where it has been administered. Utilization of the scale in dissimilar settings has been recommended. Criterion-related validity of the EPS has not yet been well-confirmed. After further validity the scale may be an aid to persons responsible for advising adult learners regarding learning activities appropriate to their needs and interests. Construct validity of the EPA has been established by factor analyses. Morstain and Smart's (1974) factor titles were used in this study. (Boshier, 1971, 1973, 1977; Boshier and Riddle, 1978; Boshier and Baker, 1979; Morstain and Smart, 1974, 1977; Wolfgang, 1979.)
Procedure

The questionnaire was mailed by first class mail on April 23, 1980, to each subject in the randomly selected samples. A stamped, self-addressed envelope was provided for returning the completed questionnaire to the researcher. Dr. Tony Basil, administrator of the Continuing Education Credit Programs Services, and Mrs. Mary Bright, administrator of Continuing Education Non-Credit Programs, provided letters indicating that the study had the approval and support of their respective offices. The appropriate administrative letter accompanied a cover letter from the researcher to each subject in the two samples. The researcher's letter stated the purpose of the research and gave assurance of individual confidentiality. Respondents were not requested to place their name on the questionnaire. Questionnaires were identified by a code number to facilitate follow-up of nonrespondents.

Subjects were asked to return completed questionnaires by May 9, 1980. A follow-up, reminder postcard was mailed on May 9, 1980, to each subject whose questionnaire had not been received by that date. Two hundred sixteen subjects in the credit sample and 133 subjects in the non-credit sample were mailed the postcard.

On May 21, 1980, a second mailing of the questionnaire accompanied by a follow-up cover letter and another stamped return envelope was sent by first class mail to subjects who
still had not responded. These were asked to return the completed questionnaire by June 4, 1980. One hundred fifty-two subjects in the credit sample and ninety-eight subjects in the non-credit sample were mailed the second questionnaire.

Copies of letters and postcard are included as Appendix A.

A record of contacts is shown in Table 3.

TABLE 3
RECORD OF CONTACTS

<table>
<thead>
<tr>
<th>Sample</th>
<th>First Mailing</th>
<th>Postcard Reminder</th>
<th>Second Mailing</th>
<th>Telephone Follow-up</th>
</tr>
</thead>
<tbody>
<tr>
<td>Credit</td>
<td>419</td>
<td>216</td>
<td>152</td>
<td>0</td>
</tr>
<tr>
<td>Non-Credit</td>
<td>320</td>
<td>133</td>
<td>98</td>
<td>5</td>
</tr>
</tbody>
</table>

Analysis of Data

Data from the questionnaire items were numerically coded and transferred to data processing cards. The resources of The Ohio State University computer system were utilized for calculations and data analysis. The Statistical Package for the Social Sciences (Nie et al., 1975) was used. Descriptive statistics (means, standard deviations and frequency distributions) were calculated for each of the two samples. Chi square analysis was used to test independence between demographic variables and enrollment status. For the variables of locus of control and motivational factors, t tests
were computed to test differences between group means. 
Stepwise discriminant analysis utilized the dependent variable and all independent variables.
CHAPTER IV
FINDINGS

The findings of this study are presented in terms of the three research questions and the one hypothesis which prompted the investigation. This chapter is organized according to parts of the questionnaire which addressed each area of interest and then to the ability of the independent variables to predict membership in the two groups, credit and non-credit enrollees in continuing education courses. Section headings are: Description of Groups; Relationship of Locus of Control to Group Membership; Motivation for Participation; Discriminant Ability of Independent Variables; and Summary of Findings.

Description of Groups

Demographic information obtained in Part I of the questionnaire permits description of the two groups, adult enrollees in continuing education credit courses and adult enrollees in continuing education non-credit courses. The following research question guided investigation of demographic variables in relation to the dependent variable of enrollment status:

40
Do adult students in continuing education credit courses differ from adult students in continuing education non-credit courses when described according to the demographic variables of place of residence, previous educational attainment, age, sex, marital status, total annual family income level, and occupation?

The following discussion and Summary Comparison table (Table 4) present findings relative to group descriptions. There were 277 respondents in the credit group and 229 in the non-credit group. A series of supporting tables containing detailed data for each demographic variable is included as Appendix B.

**Place of Residence**

Distribution of respondents according to residence location was almost the same for the two groups. Seventy percent of the credit group and 67 percent of the non-credit group were residents of the city of Columbus. Living within Franklin County but outside Columbus were 21 percent of the credit respondents and 26 percent of the non-credit respondents. Only 10 percent of those in the credit sample and seven percent in the non-credit sample traveled from outside Franklin County to attend continuing education courses.
**Education Level**

Responses regarding highest completed level of formal education ranged from high school to doctoral degree in both groups. The median education level for each group was the Bachelor's degree. Within the non-credit group, however, more than twice the number reported having a Master's degree or higher than did those in the credit group. The ratio was 29.5 percent in the non-credit sample to 14 percent in the credit sample. Chi square analysis established that a relationship existed between enrollment status (credit or non-credit) and the variable of education level. The chi square was statistically significant at the .0001 level.

**Age**

Only respondents 25 years of age or older were included in this study. The mean age of respondents in the credit group was 34 years (standard deviation of 8.16) with the oldest respondent's being 63 years of age. The mean age for the non-credit group was 40 years (standard deviation of 12.5). The oldest reported age in this group was 73 years. A t test established a difference between mean ages of the two adult groups that was statistically significant beyond the .001 level.

**Sex**

Respondents in the credit and non-credit groups were divided exactly the same on the variable of gender. Over
two-thirds of the adult continuing education students responding to this study were female. Sixty-nine percent of each group were female and 31 percent of each group were male.

Marital Status

Responses of single, separated/divorced, or widowed were collapsed into the category of "not married" for reporting purposes. No significant difference relative to marital status existed between the two groups. Of the credit group, 59 percent were married while 61 percent of the non-credit group were married.

Income Level

Group percentages were reversed when data were examined by total annual income of household at a dividing level of $24,000. Fifty-nine percent of the credit respondents reported incomes of $24,000 or less while 58 percent of the non-credit group reported incomes above $24,000. The 38 percent reporting incomes above $32,000 in the non-credit group was almost twice the 20 percent of the credit group reporting that income level. Median income for the credit sample fell within the $20,001 to $24,000 range. The median income for non-credit respondents was in the $24,001 to $28,000 range. Chi square analysis established that a relationship existed between enrollment status (credit or
non-credit) and the variable of income level. The chi square was statistically significant at the .0001 level.

**Occupation**

Occupational titles were categorized according to the *Dictionary of Occupational Titles, Fourth Edition* (1977). About half of each group (49 percent of the credit responses and 47 percent of the non-credit responses) fell into the professional, technical, managerial category. Responses from the two groups were similar for the categories of clerical and sales (21 percent of each group), service occupations (3 percent of each group), and unemployed (1.5 percent credit; 1.3 percent non-credit). Eight percent of the credit respondents classified their occupation as that of student while only 1.3 percent of the non-credit respondents did so. Homemakers accounted for 19 percent of the non-credit group and for 13 percent of the credit group. A little over five percent of the non-credit respondents but only .7 percent of the credit respondents were retired. Chi square analysis which established that a relationship existed between enrollment status (credit or non-credit) and the variable of occupation should be interpreted with caution since the table had inadequate representation in over five percent of the cells.
TABLE 4
SUMMARY COMPARISON OF CREDIT AND NON-CREDIT RESPONDENTS ON DEMOGRAPHIC VARIABLES

<table>
<thead>
<tr>
<th>Demographic Variable</th>
<th>CREDIT (N=277)</th>
<th>NON-CREDIT (N=229)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Residence within Franklin County</td>
<td>90.3%</td>
<td>92.6%</td>
</tr>
<tr>
<td>Education Level:</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Less than Master's Degree</td>
<td>85.9%</td>
<td>70.5%</td>
</tr>
<tr>
<td>Master's Degree or above</td>
<td>14.1%</td>
<td>29.5%</td>
</tr>
<tr>
<td>Age (mean)</td>
<td>33.7</td>
<td>40.2</td>
</tr>
<tr>
<td>Sex (percentage of females)</td>
<td>68.6%</td>
<td>69.0%</td>
</tr>
<tr>
<td>Marital Status (percentage married)</td>
<td>59.4%</td>
<td>60.7%</td>
</tr>
<tr>
<td>Income Level (median category) $20,001-24,000</td>
<td>$24,001-28,000</td>
<td></td>
</tr>
<tr>
<td>Occupation:</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Professional, Technical, Managerial</td>
<td>49.1%</td>
<td>46.7%</td>
</tr>
<tr>
<td>Clerical, Sales</td>
<td>21.3%</td>
<td>20.5%</td>
</tr>
<tr>
<td>Student</td>
<td>7.9%</td>
<td>1.3%</td>
</tr>
<tr>
<td>Homemaker</td>
<td>12.7%</td>
<td>18.8%</td>
</tr>
<tr>
<td>Retired</td>
<td>.7%</td>
<td>5.2%</td>
</tr>
<tr>
<td>Other Categories</td>
<td>8.3%</td>
<td>7.5%</td>
</tr>
</tbody>
</table>

A summary of the characteristics of the credit and non-credit respondents on demographic variables (Table 4) reveals that:

1. Over 90 percent of each group resided within Franklin county.

2. Eighty-six percent of the credit respondents compared to 71 percent of the non-credit respondents reported having less than a Master's degree. Chi square analysis substantiated that a relationship existed between enrollment status (credit or non-credit) and the variable of education level which was statistically significant at the .0001 level.
3. With all respondents included in the study being 25 years of age or older, the mean age for the credit group was 34 and the mean age for the non-credit group was 40. A t test established that the difference between mean ages of the two adult groups was statistically significant at the .0001 level.

4. Over two-thirds of each group were women.

5. The majority of respondents in each group were married.

6. The median income category for the credit group was $20,001 to $24,000 per year. The median income category for the non-credit group was one level higher at $24,001 to $28,000 per year. Chi square analysis substantiated that a relationship existed between enrollment status (credit or non-credit) and the variable of income level which was statistically significant at the .0001 level.

7. Almost half of each group reported occupations categorized as professional, technical, or managerial. The percentage of credit respondents who classified themselves as students was six times that of the non-credit respondents. The percentage of homemakers in the non-credit group was almost one and one-half times that in the credit group. Retired persons in the non-credit group reflected a
percentage over seven times the percentage of retired persons in the credit group.

Relationship of Locus of Control to Group Membership

Rotter's Internal-External Locus of Control Scale (I-E Scale) was used to measure the personality dimension of generalized expectancy for internal versus external control of reinforcement. Part II of the questionnaire consisted of the I-E Scale. Based upon the review of literature reported in Chapter II, there was reason to test the following hypothesis:

Adult students perceiving internal expectancy for control of reinforcement will more frequently enroll in continuing education credit courses and adult students perceiving external expectancy for control of reinforcement will more frequently enroll in continuing education non-credit courses.

The I-E Scale is a twenty-nine item, forced-choice test which includes six filler items intended to make the purpose of the test more ambiguous. Filler items were removed for scoring. Each respondent's score was the total number of external choices selected from the twenty-three authentic items. Possible scores thus ranged from one to twenty-three. The higher the test score, the more external is an individual's orientation. There were 277 respondents in the credit group and 224 respondents in the non-credit group.
Findings did not support the research hypothesis. Means and standard deviations of the I-E scores for the credit group and for the non-credit group revealed no significant difference between the two groups on the locus of control measure. Both group means fell within the internal orientation half of the I-E Scale. The similarity of measurement was striking. Mean for the credit group was 8.64 with a standard deviation of 4.47. Mean for the non-credit group was 8.52 with a standard deviation of 4.42. As shown in Table 5, a nonsignificant t value was obtained. The null hypothesis that there is no relationship between the orientation of adult students' generalized expectancy for control of reinforcement and their enrollment in credit versus non-credit continuing education courses was not rejected.

**TABLE 5**

**COMPARISON OF CREDIT AND NON-CREDIT RESPONDENTS ON ROTTER I-E SCALE**

<table>
<thead>
<tr>
<th>(LOCUS OF CONTROL)</th>
<th>Mean Difference</th>
<th>t</th>
<th>p</th>
</tr>
</thead>
<tbody>
<tr>
<td>CREDIT (N=277)</td>
<td>8.64</td>
<td>0.12</td>
<td>0.30</td>
</tr>
<tr>
<td>NON-CREDIT (N=224)</td>
<td>8.52</td>
<td></td>
<td></td>
</tr>
<tr>
<td>(S.D.=4.47)</td>
<td>(S.D.=4.42)</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Range of Scale: 1-23

**Motivation for Participation**

The following research question guided investigation of expressed motivation for participation in continuing
education courses in relation to the dependent variable of enrollment status:

Do adult students in continuing education credit courses differ from adult students in continuing education non-credit courses in the motivational factors which describe their reasons for participating in continuing education courses?

Boshier's Education Participation Scale (EPS) comprised Part III of the questionnaire. The EPS contains forty-eight items. Responses were elicited in terms of the degree to which each item influenced a subject's decision to enroll in a credit or a non-credit continuing education course during the academic quarter in which data were gathered. The nine-point scale allows for responses ranging from very little influence (1) to very much influence (9).

Morstain and Smart's factoring of the EPS identified the six factors which were used in this study. The factors are titled 1-Social Relationships, 2-External Expectations, 3-Social Welfare, 4-Professional Advancement, 5-Escape/Stimulation, and 6-Cognitive Interest. Specific items for each of these factors are listed in Appendix C.

Factor scores were calculated by first summing responses to items that had shown high factor loading for Factors 1-6 respectively. Each sum was then divided by the number of items in its corresponding factor. Six factor scores were thus obtained for each respondent. There were 277
respondents in the credit group and 224 respondents in the
non-credit group.

Factor score means were used for comparison of credit
and non-credit group responses. The range of very little
influence (1) to very much influence (9) pertained to factor
scores as it had to item responses.

A series of t tests was computed on the EPS mean factor
scores. Results are reported in Table 6.

The non-credit group mean was higher than the credit
group mean on Factor 1, Social Relationships, and on Factor
6, Cognitive Interest. Mean difference was statistically
significant at the .01 level on Factor 1, Social Relations­
ships, and was statistically significant at the .05 level on
Factor 6, Cognitive Interest.

Credit group means were higher than non-credit group
means on Factor 2, External Expectations, on Factor 3,
Social Welfare, and on Factor 4, Professional Advancement.
The t tests established differences between group means on
Factor 2 and Factor 4 which were statistically significant
at the .0001 level. The difference between group means on
Factor 3 was statistically significant at the .0002 level.

The credit group and the non-credit group were found to
be similar, as revealed by a nonsignificant t value, on
Factor 5, Escape/Stimulation.
<table>
<thead>
<tr>
<th>Variable</th>
<th>(M₁)</th>
<th>Mean</th>
<th>(M₂)</th>
<th>Difference</th>
<th>t</th>
<th>p</th>
</tr>
</thead>
<tbody>
<tr>
<td>CREDIT (N=277)</td>
<td></td>
<td></td>
<td>Non-CREDIT (N=224)</td>
<td>(M₁ - M₂)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Factor 1 Social Relationships</td>
<td>2.52</td>
<td>2.83</td>
<td>-0.31</td>
<td>-2.48</td>
<td>0.0135</td>
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<tr>
<td>Factor 2 External Expections</td>
<td>2.72</td>
<td>1.85</td>
<td>0.87</td>
<td>6.32</td>
<td>0.0001</td>
<td></td>
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<tr>
<td>Factor 3 Social Welfare</td>
<td>3.58</td>
<td>2.94</td>
<td>0.64</td>
<td>3.75</td>
<td>0.0002</td>
<td></td>
</tr>
<tr>
<td>Factor 4 Professional Advancement</td>
<td>5.07</td>
<td>3.48</td>
<td>1.59</td>
<td>9.57</td>
<td>0.0001</td>
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<tr>
<td>Factor 5 Escape/Stimulation</td>
<td>2.90</td>
<td>2.86</td>
<td>0.04</td>
<td>0.27</td>
<td>0.7912</td>
<td></td>
</tr>
<tr>
<td>Factor 6 Cognitive Interest</td>
<td>6.07</td>
<td>6.44</td>
<td>-0.37</td>
<td>-1.97</td>
<td>0.0491</td>
<td></td>
</tr>
</tbody>
</table>

Scale Range: 1 (very little influence) to 9 (very much influence)
Factor score means on the EPS had a possible range of 1 (very little influence) to 9 (very much influence). The range of 1 to 9 can be divided into a lower level (values of 1-3), a middle level (values of 3-6), and an upper level (values of 6-9).

Twelve group means were obtained, one mean for each of the two groups (credit and non-credit) on the six EPS factors. Figure 1 shows that a majority of the group means, seven of a possible twelve, attained values less than 3.0. This level indicates that the following factors exerted "little influence" on decisions to participate in continuing education courses:

- Factor 1, Social Relationship -- Both groups
- Factor 2, External Expectations -- Both groups
- Factor 3, Social Welfare -- Non-credit group
- Factor 5, Escape/Stimulation -- Both groups

Three group means were in the middle level (values of 3-6) of the possible 1 to 9 range. The highest of these three means reached only to 5.07. The other two means were just above and below 3.5. Exerting a "moderate influence" on decisions to participate in continuing education courses were:

- Factor 3, Social Welfare -- Credit group
- Factor 4, Professional Advancement -- Both groups

Only two group means reached into the upper level (values of 6-9). Factor 6, Cognitive Interest, exerted
"much influence" on both groups' decisions to participate in continuing education courses. These two group means were between 6.0 and 6.5, so even the strongest mean factor scores failed to reach the top possible value of "very much influence."
Figure 1. Graphic Display of Mean Factor Scores for Credit and Non-Credit Respondents on EPS.
Discriminant Ability of Independent Variables

The question which guided study of the relations among variables in the two groups was:

Which of the independent variables (demographic factors, locus of control, motivational factors) best predicts group membership in continuing education credit courses or in continuing education non-credit courses?

There were seven demographic variables: place of residence, previous educational attainment, age, sex, marital status, total annual family income, and occupation. Locus of control was a single variable. There were six motivational factors: Social Relationships, External Expectations, Social Welfare, Professional Advancement, Escape/Stimulation, and Cognitive Interest.

Stepwise discriminant analysis was used to identify variables which discriminate between adult students in continuing education credit courses and adult students in continuing education non-credit courses. The stepwise discriminant analysis process is sequential. At each step the variable was identified which "best" discriminated between membership in the two groups.

All fourteen independent variables were entered into the analysis with the dependent variable of enrollment status, credit or non-credit. At each step, F values were computed for each independent variable. At each successive step, the variable with the highest F value was the next variable to
get into the "best set." F values of variables already selected changed in relationship to newly selected variables. After Step 8, the remaining six independent variables had F levels insufficient for further computation. No improvement in ability to predict group membership could be obtained after that step. F values for variables in the set at the end of Step 8 are reported in the Summary Table included as Appendix D.

Five credit respondents and nine non-credit respondents had at least one missing observation and were excluded from the analysis. There were, therefore, 272 respondents in the credit group and 215 respondents in the non-credit group.

As shown in Table 7, the variable selected at Step 1 was Factor 4 of the Education Participation Scale (EPS), Professional Advancement. On the basis of this variable alone, 69 percent of the credit group and 67 percent of the non-credit group were correctly classified.

After Step 3, the percent of the credit group correctly classified had risen to almost 71 percent. The percent of the non-credit group correctly classified reached its maximum level of 73.3 percent at this step. Independent variables in the set after Step 3 were Factor 4 of EPS (Professional Advancement), Income, and Factor 1 of EPS (Social Relationships).

Although the maximum of 77.6 percent was reached for correct classification of credit group respondents after
<table>
<thead>
<tr>
<th>Step</th>
<th>Variable</th>
<th>Percent of Group Correctly Classified</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>CREDIT (N=272)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>NON-CREDIT (N=215)</td>
</tr>
<tr>
<td>1</td>
<td>Factor 4 of EPS</td>
<td>69.0%</td>
</tr>
<tr>
<td>2</td>
<td>Factor 4, Income</td>
<td>70.6%</td>
</tr>
<tr>
<td>3</td>
<td>Factor 4, Income, Factor 1</td>
<td>70.6%</td>
</tr>
<tr>
<td>4</td>
<td>Factor 4, Income, Factor 1, Age</td>
<td>72.4%</td>
</tr>
<tr>
<td>5</td>
<td>Factor 4, Income, Factor 1, Age</td>
<td>72.4%</td>
</tr>
<tr>
<td></td>
<td>Factor 5</td>
<td>76.1%</td>
</tr>
<tr>
<td>6</td>
<td>Factor 4, Income, Factor 1, Age</td>
<td>77.6%</td>
</tr>
<tr>
<td></td>
<td>Factor 5, Factor 3</td>
<td>77.6%</td>
</tr>
<tr>
<td>7</td>
<td>Factor 4, Income, Factor 1, Age, Factor 5,</td>
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<td></td>
<td>Factor 3, Factor 2</td>
<td>77.6%</td>
</tr>
<tr>
<td>8</td>
<td>Factor 4, Income, Factor 1, Age, Factor 5,</td>
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<tr>
<td></td>
<td>Factor 3, Factor 2, Education</td>
<td>77.2%</td>
</tr>
<tr>
<td></td>
<td>Education</td>
<td>77.2%</td>
</tr>
</tbody>
</table>

**EPS FACTORS:**
1-Social Relationships
2-External Expectations
3-Social Welfare
4-Professional Advancement
5-Escape/Stimulation
6-Cognitive Interest

**Not in analysis after Step 8:**
- Residence
- Sex
- Marital Status
- Occupation
- Locus of Control
- Factor 6 of EPS
Step 6 and was maintained through Step 7, the optimum level for both credit and non-credit groups was reached after Step 8. Variables in the set after Step 8 and therefore comprising the "best set" for predictive purposes included:

1. Factor 4 of EPS, Professional Advancement
2. Income
3. Factor 1 of EPS, Social Relationships
4. Age
5. Factor 5 of EPS, Escape/Stimulation
6. Factor 3 of EPS, Social Welfare
7. Factor 2 of EPS, External Expectations
8. Education

The set of these eight variables correctly classified 77 percent of the credit group respondents and 71 percent of the non-credit group respondents.

Variables not in analysis after Step 8 included:

1. Residence
2. Sex
3. Marital Status
4. Occupation
5. Locus of Control
6. Factor 6 of EPS, Cognitive Interest

In summary, the original fourteen independent variables requested more information than would be needed by program planners who wished to make as accurate prediction as possible regarding adults' enrolling in credit or in non-credit
continuing education courses. This analysis revealed a set of eight variables which correctly classified approximately three-fourths of the respondents whose actual group membership was known. Obtaining information on the variables with discriminating ability would aid in classification of new subjects with unknown group membership. Information regarding all fourteen variables included in this study plus additional variables not in the study might be desired for other purposes. For predicting group membership, however, the eight variables in the "best set" which contributed most to differentiating between members of the two groups would be most informative.

The procedure to be followed to predict group membership of "unknown cases" is:

1. Obtain data from an adult (25 years of age or older) on these variables:
   a. Boshier's Education Participation Scale (EPS)
      (Note: Five of the individual's six factor scores on the EPS will be used.)
   b. Annual household income
   c. Age
   d. Highest completed level of formal education

2. Code data to obtain variable values to use in computations. The Coding Guide is included as Appendix E.
3. Multiply each of the eight variable values by its two corresponding Classification Function Coefficients as reported in the Summary Table, Appendix D.

4. Obtain two sums for each "unknown case" by summing the products plus the constant for the credit group (Sample 1) and for the non-credit group (Sample 2).

5. The highest of the two sums obtained predicts group membership in either the credit group or in the non-credit group. The "unknown case" is classified into the appropriate group.

Summary of Findings

Adult students in continuing education credit courses differed from adult students in continuing education non-credit courses when described according to the demographic variables of education level, age, and income level. Adults in the non-credit group measured higher on each of these three variables. More than twice the number of the non-credit respondents reported having a Master's degree or higher than did the respondents in the credit group. The mean age for the non-credit respondents was six years higher at age 40 than the mean age of 34 for the credit respondents. The median income category for the credit group was $20,001 to $24,000 per year. The median income category for the non-credit group was one level higher at $24,001 to $28,000 per year.
Adult students in both the credit and the non-credit groups were similar on the variables of place of residence, sex, and marital status.

An apparent relationship between enrollment status (credit or non-credit) and the variable of occupation was not reliable due to sparse cell counts in over five percent of the cells. Findings indicated that the two groups were similar in percentages reporting occupations in the professional, technical, managerial category and in the clerical, sales category. Higher proportions of noncredit respondents classified themselves as homemakers or as retired persons. A higher proportion of the credit group respondents classified themselves as students.

Having an internal or an external expectancy for control of reinforcement is a personality characteristic which had no detectable influence on choice of credit versus non-credit continuing education courses for adults in this study. No relationship was found between adult students' locus of control and choice of enrollment in credit or in non-credit continuing education courses.

Adult students in continuing education credit courses differed significantly from adult students in continuing education non-credit courses on five of six motivational factors. The non-credit group mean was higher than the credit group mean on the factors of Social Relationships and Cognitive Interest. Credit group means were higher than
non-credit group means on the factors of External Expectations, Social Welfare, and Professional Advancement. The two groups were similar on the factor of Escape/Stimulation.

The motivational factor of Cognitive Interest provided the highest mean factor score for both the credit and the non-credit groups. However, neither of these two highest group means reached 6.5 on a scale which had a range of 1 (very little influence) to 9 (very much influence).

Eight of this study's 14 independent variables comprised a set which best discriminated between membership of adult students in continuing education credit courses and adult students in continuing education non-credit courses. The set of independent variables with discriminating ability included the demographic variables of income level, age, and education level. Five motivational factors were included: Professional Advancement, Social Relationships, Escape/Stimulation, Social Welfare, and External Expectations. Approximately three-fourths of the respondents were correctly classified as to group membership using the set of eight variables.

Variables with insufficient discriminating ability were: residence, sex, marital status, occupation, locus of control, and Cognitive Interest.

A procedure for predicting group membership of "unknown cases" was described. This procedure may be used by planners of continuing education programs to determine the
likelihood of an adult student's enrolling in a credit versus a non-credit continuing education course. Based on the "known cases" correctly classified in this study, the procedure could be expected to predict group membership correctly for approximately 75 percent of "unknown cases", an increase of 25 percent over expected probability.
CHAPTER V

SUMMARY, CONCLUSIONS, AND RECOMMENDATIONS.

The Problem

The number of adults participating in learning activities has increased noticeably in recent years. This increase is of interest and importance to adult educators at all levels. Many persons twenty-five years of age or older, however, are choosing institutions of higher education as an avenue for having their learning needs met. Colleges and universities are therefore impelled to give more attention to their population of adult students than has been necessary in the past.

The available number of traditional aged college students is projected to continue a decline which has already been felt by some institutions. The population from which significant enrollment growth or, in some instances, enrollment maintenance can be obtained is the adult group. The economic ramification is that university programs need to attract adults, the population age group which is expected to increase in proportion to other age groups.

At the same time that universities are seeing institutional benefit to directing more attention to the adult student, more adults are realizing their need for continued
learning. Technological and social changes have made it impossible, inadvisable, or unnecessary for adults to rely on prior learning to suffice throughout their lifetime. Career changes or advancement hinge on current knowledge and skill. Changes in personal and social relationships call for or allow exploration of new interests.

Knowledge of the characteristics and needs of adult learners is increasing through research. Findings from studies directed toward this end are needed in order to provide appropriate, meaningful learning opportunities for adults.

This study has examined aspects of demographic, personality, and motivational influences on adult participation in credit and non-credit continuing education programs of The Ohio State University. The primary interest underlying this effort was that of basic research to add to what is currently known regarding the characteristics of adult learners. Secondary reasoning was that documentation of similarities and differences between adults enrolled in continuing education credit courses and adults enrolled in continuing education non-credit courses would provide some input for decision making regarding program planning and development in these areas.

Three research questions and one hypothesis guided this study. The dependent variable was enrollment status, that is, whether the student was enrolled in credit or in
non-credit continuing education courses. Independent variables included selected demographic variables, the personality characteristic of generalized expectancy for internal versus external control of reinforcement, and motivational factors.

The research question which guided investigation of demographic variables in relation to the dependent variable was:

Do adult students in continuing education credit courses differ from adult students in continuing education non-credit courses when described according to the demographic variables of place of residence, previous educational attainment, age, sex, marital status, total annual family income level, and occupation?

The personality dimension of generalized expectancy for internal versus external control of reinforcement has been described by Rotter within the framework of social learning theory. Rotter and others have reported that the efficacy of a reward or reinforcement on behavior depends on whether or not an individual believes he has control over the outcome of the situation in which the reward is offered. If the person perceives that his behavior is the determinant, this is referred to as a belief in or generalized expectancy for internal control of reinforcement. If the person perceives that the outcome hinges on luck, chance, fate, or the
control of powerful others, this interpretation is termed a belief in or generalized expectancy for external control of reinforcement. According to social learning theory, psychological behavior is learned behavior. A person's past experiences will cause him to perceive generally that he does or does not have control over the outcome of most situations in which he is involved. (Rotter, 1966; Rotter, Chance, and Phares, 1972; Rotter and Hochreich, 1975).

Because of the strong emphasis our society places on academic credentials, academic credit was considered the reinforcement or reward in question for purposes of this study. The premise was that a person who perceives that his behavior controls the acquiring of socially desirable academic credit will show more overt striving for that particular reward or reinforcement by enrolling in a course where such credit is granted. A person who does not perceive that his behavior controls the acquiring of socially desirable academic credit will avoid the possibility of failing to reap that particular reward or reinforcement by enrolling in a course where such credit is not granted. The hypothesized relationship tested was:

Adult students perceiving internal expectancy for control of reinforcement will more frequently enroll in continuing education credit courses and adult students perceiving external expectancy for
control of reinforcement will more frequently enroll in continuing education non-credit courses.

The research question which guided investigation of expressed motivation for participation in continuing education courses in relation to the dependent variable of enrollment status was:

Do adult students in continuing education credit courses differ from adult students in continuing education non-credit courses in the motivational factors which describe their reasons for participating in continuing education courses?

The research question which guided study of the relations among variables was:

Which of the independent variables (demographic factors, locus of control, motivational factors) best predicts group membership in continuing education credit courses or in continuing education non-credit courses?

**Methodology**

The two samples for this study were drawn from the populations of students who were enrolled in continuing education credit courses or in continuing education non-credit courses of The Ohio State University during the Spring Quarter of 1980. Samples from each population were obtained through systematic random sampling.
The accessible populations were 2199 students enrolled in continuing education credit courses and 1403 students enrolled in continuing education non-credit courses. Since the study's focus was on students beyond the traditional college age and because age was not given as registration data for all enrollees, both populations were oversampled. Questionnaires were mailed to the 419 subjects in the credit sample and to the 320 subjects in the non-credit sample. Respondents under age 25 or whose questionnaires had extensive missing data were not used.

A sample size of 333 was desired for the credit population. Two hundred seventy-seven usable responses were received for a return rate of 83.2 percent.

A sample size of 286 was desired for the non-credit population. Two hundred twenty-four usable responses were received for a return rate of 78.3 percent. Response rate was raised to 80.1 percent for demographic data only by means of telephone follow-up of five nonrespondents selected at random from the non-credit sample.

The design for this study was a combination of survey and correlation research. Data were collected by mailed questionnaire. The dependent variable was enrollment status, that is, whether the student was enrolled in credit or in non-credit continuing education courses. Part I of the questionnaire requested responses regarding the demographic variables of place of residence, previous
educational attainment, age, sex, marital status, total annual family income, and occupation. Information on these independent variables provided descriptive data.

Part II of the questionnaire consisted of Rotter's (1966) Internal-External Locus of Control Scale, referred to as the I-E Scale. Data from scores on the I-E Scale were used to analyze group differences on the personality characteristic of generalized expectancy for internal versus external control of reinforcement (locus of control).

Boshier's (1971) Education Participation Scale (EPS) comprised Part III of the questionnaire. Factors extracted from the EPS by Morstain and Smart (1974) were used for analysis of data regarding expressed reasons for participation in continuing education courses. The six motivational factors are titled Social Relationships, External Expectations, Social Welfare, Professional Advancement, Escape/Stimulation, and Cognitive Interest.

The data were analyzed at the Instruction and Research Computer Center of The Ohio State University utilizing the Statistical Package for the Social Sciences (SPSS).

Findings

Description of Groups

Analysis of demographic data revealed the following description of adult students in continuing education credit and non-credit courses:
1. **Place of Residence**—Ninety-one percent of the credit group and 93 percent of the non-credit group resided within Franklin county. Seventy percent of the credit group and 67 percent of the non-credit groups were residents of the city of Columbus.

2. **Education Level**—The median education level for each group was the Bachelor's degree. Completion of a graduate degree, Master's degree or higher, was reported by 29.5 percent of the non-credit group but by only 14 percent of the credit group. Relationship between education level and the dependent variable of enrollment status (credit or non-credit) was substantiated by chi square analysis. The chi square was statistically significant at the .0001 level.

3. **Age**—All subjects included in this study were 25 years of age or older. The mean age for the credit group was 34 years with 63 as the highest reported age. Mean age for the non-credit group was 40 years ranging to 73 as the highest reported age. A t test revealed that the difference between age means of the two groups was statistically significant at the .0001 level.

4. **Sex**—The proportion of males and females was the same in both the credit and the non-credit group. Over two-thirds of each group were women.
Sixty-nine percent of each group were female; 31 percent of each group were male.

5. Marital Status--Responses other than "married" were collapsed into the reported category of "not married." The majority of respondents in each group were married. Fifty-nine percent of the credit group and 61 percent of the non-credit group were married.

6. Income Level--Fifty-nine percent of the credit group reported annual incomes of $24,000 or less. This percentage was reversed for the non-credit group with 58 percent reporting incomes above $24,000 per year. Median income for the credit group fell within the $20,001 to $24,000 range. The median income category for the non-credit group was one level higher at $24,001 to $28,000 per year. Twenty percent of the credit group reported annual income above $32,000. Almost twice that percentage, 38 percent, of the non-credit group reported annual income above $32,000. Chi square analysis substantiated that a relationship existed between the independent variable of income level and the dependent variable of enrollment status (credit or non-credit). The chi square was statistically significant at the .0001 level.
7. **Occupation**—Almost half of each group (49 percent credit; 47 percent non-credit) reported occupations in the professional, technical, managerial category. Responses from the two groups were the same for the categories of clerical and sales (21 percent of each group) and service occupations (3 percent of each group). The percentage of unemployed was almost the same for both groups (1.5 percent credit; 1.3 percent non-credit). Eight percent of the credit respondents but only 1.3 percent of the non-credit respondents categorized themselves as students. Homemakers accounted for 13 percent of the credit group and for 19 percent of the non-credit group. Only .7 percent of the credit respondents were retired while over five percent of the non-credit respondents reported themselves as being retired.

**Relationship of Locus of Control to Group Membership**

Rotter's social learning theory provided basis for this study's single hypothesis. Rotter's Internal-External Locus of Control Scale (I-E Scale) was used to measure the personality dimension of generalized expectancy for internal versus external control of reinforcement. The hypothesis tested was:

Adult students perceiving internal expectancy for control of reinforcement will more frequently enroll in continuing education credit courses and
adult students perceiving external expectancy for control of reinforcement will more frequently enroll in continuing education non-credit courses.

Findings did not support the research hypothesis. A nonsignificant t value was obtained when group means were tested. The credit group mean was 8.64 and the non-credit group mean was 8.52. Both group means fell within the internal orientation half of the scale range of one to twenty-three. No relationship was found between adult students' locus of control and choice of enrollment in credit or in non-credit continuing education courses.

**Motivation for Participation**

Boshier's Education Participation Scale (EPS) was used to elicit responses regarding influences on a subject's decision to enroll in a credit or a non-credit continuing education course during the academic quarter data were gathered. The six factors extracted from the EPS by Morstain and Smart (1974) were used during analysis of data. A series of t tests examined differences in group means on each of the six motivational factors.

The non-credit group mean was higher than the credit group mean on Factor 1, Social Relationships, and on Factor 6, Cognitive Interest. Mean difference was statistically significant at the .01 level on Factor 1 and at the .05 level on Factor 6.
Credit group means were higher than non-credit group means on Factor 2, External Expectations, on Factor 3, Social Welfare, and on Factor 4, Professional Advancement. Mean difference was statistically significant at the .0001 level on Factor 2 and on Factor 4. Mean difference was statistically significant at the .0002 level on Factor 3.

No significant difference existed between the credit and the non-credit groups on Factor 5, Escape/Stimulation.

Motivational Factor 6, Cognitive Interest, provided the highest mean factor scores for both groups (6.07 for credit group; 6.44 for non-credit group). Neither of the two highest group means reached beyond the middle level of a scale which had a range of 1 (very little influence) to 9 (very much influence).

**Discriminant Ability of Independent Variables**

Stepwise discriminant analysis was used to identify which of this study's fourteen independent variables best discriminated between membership of adult students in continuing education credit courses and adult students in continuing education non-credit courses. Eight of the independent variables comprised the "best set" of variables for predictive purposes. The set of variables with discriminating ability included the demographic variables of income level, age, and education level and the motivational factors titled Professional Advancement, Social Relationships,
Escape/Stimulation, Social Welfare, and External Expectations. Approximately three-fourths of the respondents were correctly classified as to group membership using this set of eight variables.

The six independent variables which had insufficient ability to discriminate group membership included the demographic variables of residence, sex, marital status, and occupation, the personality dimension of locus of control, and the motivational factor of Cognitive Interest.

A procedure was described which may be used to predict membership of adult students in continuing education credit courses or in continuing education non-credit courses. Based on this study's findings, use of the procedure could be expected to raise the rate of correctly predicted group membership of "unknown cases" from the usual probability of 50 percent to approximately 75 percent.

Conclusions

Based on interpretation of data presented and analyzed in this study, the following conclusions seem logical and appropriate:

1. Adult students (persons 25 years of age or older) enrolled in continuing education credit courses at The Ohio State University are similar to adult students enrolled in continuing education non-credit courses when described according to the variables of place of residence, sex, and marital status.
2. Education level of adult students in the non-credit group is higher than education level of adult students in the credit group.

3. The mean age of adult students (25 years of age or older) is significantly higher for the non-credit group than for the credit group.

4. The income level of the non-credit group is higher than the income level of the credit group.

5. The credit group and the non-credit group are similar on occupation categorization with these exceptions:
   a. A larger percentage of the credit group than of the non-credit group consider themselves students.
   b. A larger percentage of the non-credit group than of the credit group are in the categories of homemaker or retired.

6. The personality dimension of generalized expectancy for internal versus external control of reinforcement (locus of control) has no detectable influence on adult students' choice of enrollment in continuing education credit courses or in continuing education non-credit courses.

7. Adult students in the credit group score significantly higher than adult students in the non-credit group on the motivational factors of External
Expectations, Social Welfare, and Professional Advancement. Credit group members are more likely than non-credit group members to enroll in continuing education courses in order "to comply with instructions from someone else" or "to carry out the expectations of someone with formal authority." They are also more likely to be influenced by a desire "to improve my ability to serve mankind" or "to prepare for service to the community." Credit group members are more likely to report that items such as "to give me higher status in my job," "to secure professional advancement," and "to keep up with competition" influenced their decision to enroll in a continuing education course.

8. Adult students in the non-credit group score significantly higher than adult students in the credit group on the motivational factors of Social Relationships and Cognitive Interest. Non-credit group members are more likely than credit group members to indicate that they enroll in a continuing education course for reasons such as "to fulfill a need for personal associations and friendships" or "to make new friends." They also are more likely to report that the items of "to learn just for the sake of learning," "to seek knowledge for its own sake," and "to satisfy an inquiring mind" describe their
motivation for enrolling in a continuing education course.

9. The motivational factor of Escape/Stimulation is not significantly related to adult students' choice of enrollment in continuing education credit courses or in continuing education non-credit courses.

10. Administrators and educators who wish to predict adult students' choice of enrolling in credit versus non-credit continuing education courses need data on the variables of annual household income, age, highest completed level of formal education and on five of six motivational factor scores obtained from administering Boshier's Education Participation Scale (EPS). These data may be used in a procedure described in Chapter IV to predict group membership in either the credit group or in the non-credit group. Approximately 75 percent of "unknown cases" can be expected to be correctly classified.

11. Both credit and non-credit continuing education courses should continue to be offered. A maximum number of enrollment options will continue to attract adults who have diverse motivations for enrolling in any continuing education course.

12. Response rate to research questionnaires may be inhibited by choice of instrument design. Rotter's I-E Scale comprised Part II of the questionnaire
used in this study but was not titled. Nine sub-
jects (four from credit group; five from non-credit
group) returned incompletely completed questionnaires with
notations indicating their intention not to partic-
ipate in the study. They specifically objected to
the forced-choice format of the I-E Scale. They
indicated that the researcher, who they assumed
developed the instrument, was naive and ill-educated
to have thought this portion of the questionnaires
could garner any worthwhile or meaningful informa-
tion. While the number of subjects who overtly
refused to participate in the study is small, it is
worth reporting that all refusals were based on
objections to a specific portion of the question-
naire—the I-E Scale.

Recommendations

1. Additional basic research should be conducted.
Include the continued investigation of personality
characteristics of adult learners. Base research on
established theories. Use a variety of valid
instruments. Utilize qualitative methods of
inquiry in addition to quantitative approaches.

2. Compare data for Columbus', Ohio', and Franklin county
from other sources to data presented in Appendix B
of this study in order to determine similarities of
continuing education adult students to the general
population. Develop continuing education offerings targeted to attract previously unreached segments of the general population.

3. Administer the Education Participation Scale (EPS) to students of all ages enrolled in continuing education courses of The Ohio State University. Investigate the relationship of age to motivation for enrollment in credit or in non-credit continuing education courses.

4. Investigate the relationship of the types of courses in which adult learners enroll to motivation for enrollment in credit or in non-credit continuing education courses.

5. Compare findings of this study to characteristics of adult learners enrolled in courses in educational settings other than the university. Possible settings for study include technical postsecondary programs, adult basic education programs, and community colleges.

6. Conduct research utilizing the procedure described in this study for predicting group membership of adult students in credit or in non-credit continuing education courses. Findings could determine the usefulness of the procedure to continuing education program planners.
APPENDIX A

LETTERS AND POSTCARD TO SURVEY SUBJECTS
April 25, 1980

Dear Student:

You have been selected in a sample of adult students involved in the education programs of the Office of Continuing Education. We are asking you to participate in a study which will provide additional information concerning the characteristics of adult learners. Janice T. Adkins is conducting this study. Information gained can be used to increase the effectiveness of this university in meeting the needs of adult students.

Your cooperation in filling out the enclosed questionnaire is appreciated. Your opinions are needed and are critical to our obtaining truly representative and valid results.

Your promptness in returning the completed questionnaire will facilitate progress of the study. Please return the questionnaire by May 9, 1980.

Sincerely,

Anthony T. Basil
Assistant Director
Continuing Education

ATB/jlc

Enclosure
April 25, 1980

Dear Student:

You have been selected in a sample of adult students involved in the education programs of the Office of Continuing Education. We are asking you to participate in a study which will provide additional information concerning the characteristics of adult learners. Janice T. Adkins is conducting this study. Information gained can be used to increase the effectiveness of this university in meeting the needs of adult students.

Your cooperation in filling out the enclosed questionnaire is appreciated. Your opinions are needed and are critical to our obtaining truly representative and valid results.

Your promptness in returning the completed questionnaire will facilitate progress of the study. Please return the questionnaire by May 9, 1980.

Sincerely,

Mary K. Bright
Associate Director
Urban Extension
Continuing Education/Non-Credit

MKB/jlc
Enclosure
April 25, 1980

Dear Participant:

We need your help in conducting some research directed toward identifying characteristics of adults engaged in learning activities. We have chosen to survey adult students enrolled in courses offered by the Office of Continuing Education.

The enclosed questionnaire is being used to gather data for the study. Completion of the questionnaire will require about 20 minutes of your time. Please use the enclosed pre-addressed, postage paid envelope to return the completed questionnaire.

Be assured that your responses will be strictly confidential. The purpose of the code number on the questionnaire is to facilitate follow-up of non-respondents. Data from the study will be used only in an overall analysis. No individual responses will be identified.

Your prompt reply is important to the success of the study. Please return the completed questionnaire by May 9, 1980.

Your participation is appreciated a great deal by all of us involved in this study.

Sincerely,

[Signature]

Janice T. Adkins
JTA/jic

Enclosures
April 25, 1980

Dear Participant:

We need your help in conducting some research directed toward identifying characteristics of adults engaged in learning activities. We have chosen to survey adult students enrolled in courses offered by the Office of Continuing Education.

The enclosed questionnaire is being used to gather data for the study. Completion of the questionnaire will require about 20 minutes of your time. Please use the enclosed pre-addressed, postage-paid envelope to return the completed questionnaire.

Be assured that your responses will be strictly confidential. The purpose of the code number on the questionnaire is to facilitate follow-up of non-respondents. Data from the study will be used only in an overall analysis. No individual responses will be identified.

Your prompt reply is important to the success of the study. Please return the completed questionnaire by May 9, 1980.

Your participation is appreciated a great deal by all of us involved in this study.

Sincerely,

Janice T. Adkins
JTA/jlc
Enclosures
May 9, 1980

Dear Participant:

Approximately two weeks ago we sent you a questionnaire for a research project involving students in the Office of Continuing Education at The Ohio State University. Your response is important.

If you have not already done so, please take a few minutes to complete the questionnaire and return it to us. Your time and cooperation are greatly appreciated.

Sincerely,

Janice T. Adkins
May 23, 1980

Dear Participant:

Approximately four weeks ago we mailed you a questionnaire concerning a study to determine characteristics of adult learners. You are one of a random sample of adult students in continuing education courses of The Ohio State University who received the questionnaire. Your response is necessary and important for the success of the study.

Since we have received no reply from you, another questionnaire with a stamped, pre-addressed envelope for your use is enclosed.

Please remember that all information you provide will be treated as strictly confidential. No individual responses will be identified in any reporting of the data obtained.

Thank you for reconsidering your part in this research effort. Your participation could contribute to increased effectiveness in meeting needs you and other adult students have.

Please complete and mail the questionnaire by June 4, 1980. Your prompt reply is appreciated.

Sincerely,

Janice T. Adkins
JTA/Jlc
Enclosures
May 23, 1980

Dear Participant:

Approximately four weeks ago we mailed you a questionnaire concerning a study to determine characteristics of adult learners. You are one of a random sample of adult students in continuing education courses of The Ohio State University who received the questionnaire. Your response is necessary and important for the success of the study.

Since we have received no reply from you, another questionnaire with a stamped, pre-addressed envelope for your use is enclosed.

Please remember that all information you provide will be treated as strictly confidential. No individual responses will be identified in any reporting of the data obtained.

Thank you for reconsidering your part in this research effort. Your participation could contribute to increased effectiveness in meeting needs you and other adult students have.

Please complete and mail the questionnaire by June 4, 1980. Your prompt reply is appreciated.

Sincerely,

Janice T. Adkins

JTA/J1e

Enclosures
APPENDIX B

DETAILED DATA FOR DEMOGRAPHIC VARIABLES
## DISTRIBUTION OF CREDIT AND NON-CREDIT RESPONDENTS:

### BY RESIDENCE

<table>
<thead>
<tr>
<th>Location</th>
<th>CREDIT</th>
<th>Non-Credit</th>
<th>TOTAL</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>No.</td>
<td>%</td>
<td>No.</td>
</tr>
<tr>
<td>Columbus</td>
<td>193</td>
<td>69.7</td>
<td>153</td>
</tr>
<tr>
<td>Franklin County (other than Columbus)</td>
<td>57</td>
<td>20.6</td>
<td>59</td>
</tr>
<tr>
<td>Outside Franklin County</td>
<td>27</td>
<td>9.7</td>
<td>17</td>
</tr>
<tr>
<td><strong>TOTAL</strong></td>
<td>277</td>
<td>100.0</td>
<td>229</td>
</tr>
</tbody>
</table>

Chi square = 2.400 with 2df; p = 0.30

### BY EDUCATION LEVEL

<table>
<thead>
<tr>
<th>Education Level</th>
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<th>Non-Credit</th>
<th>TOTAL</th>
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<tbody>
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<td></td>
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<td>%</td>
<td>No.</td>
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<tr>
<td>High School</td>
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</tr>
<tr>
<td>Less than Bachelor's Degree</td>
<td>85</td>
<td>30.7</td>
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<tr>
<td>Bachelor's Degree</td>
<td>85</td>
<td>30.7</td>
<td>71</td>
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<tr>
<td>Less than Master's Degree</td>
<td>51</td>
<td>18.4</td>
<td>22</td>
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<tr>
<td>Master's Degree</td>
<td>25</td>
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<tr>
<td>Less than Doctoral Degree</td>
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<td>7</td>
</tr>
<tr>
<td>Doctoral Degree</td>
<td>9</td>
<td>3.3</td>
<td>18</td>
</tr>
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<td><strong>TOTAL</strong></td>
<td>277</td>
<td>100.0</td>
<td>227</td>
</tr>
</tbody>
</table>

Chi square = 28.695 with 6df; p = 0.0001
### BY AGE

<table>
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<th>Age</th>
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<th></th>
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<tr>
<td></td>
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<td>%</td>
<td></td>
<td>No.</td>
<td>%</td>
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<tr>
<td>25-29</td>
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<td>30-34</td>
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<td>50</td>
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<td>35-39</td>
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<td></td>
<td>26</td>
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<td></td>
<td>24</td>
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<tr>
<td>45-49</td>
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<td></td>
<td>19</td>
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<td>50-54</td>
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<td></td>
<td>19</td>
<td>8.3</td>
<td></td>
</tr>
<tr>
<td>55-59</td>
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<td></td>
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<tr>
<td>60-64</td>
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<td>1.1</td>
<td></td>
<td>11</td>
<td>4.8</td>
<td></td>
</tr>
<tr>
<td>65-69</td>
<td>---</td>
<td>----</td>
<td></td>
<td>8</td>
<td>3.5</td>
<td></td>
</tr>
<tr>
<td>70-73</td>
<td>---</td>
<td>----</td>
<td></td>
<td>3</td>
<td>1.3</td>
<td></td>
</tr>
<tr>
<td>TOTAL</td>
<td>277</td>
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<td></td>
<td>229</td>
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### Mean Difference

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<th>t</th>
<th>p</th>
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<td>33.71</td>
<td>40.21</td>
<td>6.5</td>
<td>6.76</td>
<td>0.0001</td>
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<tr>
<td>(S.D. = 8.16)</td>
<td>(S.D. = 12.5)</td>
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### BY SEX

<table>
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<td>%</td>
<td>No.</td>
</tr>
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<td>Male</td>
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<td>31.4</td>
<td>71</td>
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<td>Female</td>
<td>190</td>
<td>68.6</td>
<td>158</td>
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<tr>
<td>TOTAL</td>
<td>277</td>
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<td>229</td>
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</table>

Chi square = 0.010 with 1 df; p = 0.92

### BY MARITAL STATUS

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<tr>
<td>Married</td>
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<tr>
<td>Not Married</td>
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<td>90</td>
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<td>229</td>
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Chi square = 0.116 with 1 df; p = 0.73
### BY INCOME LEVEL

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<th>Income Level</th>
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<tbody>
<tr>
<td></td>
<td>No.</td>
<td>%</td>
<td>No.</td>
<td>%</td>
<td>No.</td>
<td>%</td>
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<tr>
<td>Less than $8,000</td>
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<td>2</td>
<td>.9</td>
<td>12</td>
<td>2.4</td>
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<tr>
<td>$8,000 - 12,000</td>
<td>40</td>
<td>14.4</td>
<td>15</td>
<td>6.5</td>
<td>55</td>
<td>10.9</td>
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<tr>
<td>$12,001 - 16,000</td>
<td>52</td>
<td>18.8</td>
<td>25</td>
<td>10.9</td>
<td>77</td>
<td>15.2</td>
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<tr>
<td>$16,001 - 20,000</td>
<td>15</td>
<td>5.4</td>
<td>13</td>
<td>5.7</td>
<td>28</td>
<td>5.5</td>
</tr>
<tr>
<td>$20,001 - 24,000</td>
<td>48</td>
<td>17.3</td>
<td>33</td>
<td>14.4</td>
<td>81</td>
<td>16.0</td>
</tr>
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<td>$24,001 - 28,000</td>
<td>25</td>
<td>9.1</td>
<td>24</td>
<td>10.5</td>
<td>49</td>
<td>9.7</td>
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<tr>
<td>$28,001 - 32,000</td>
<td>28</td>
<td>10.1</td>
<td>23</td>
<td>10.0</td>
<td>51</td>
<td>10.1</td>
</tr>
<tr>
<td>More than $32,000</td>
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<tr>
<td>No Response</td>
<td>5</td>
<td>1.8</td>
<td>8</td>
<td>3.5</td>
<td>13</td>
<td>2.5</td>
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</table>

**TOTAL** 277 100.0 229 100.0 506 100.0

Chi square = 31.976 with 7df; p = 0.0001

Note: "No Response" cell was deleted in calculation of chi square.

### BY OCCUPATION

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<tr>
<th>Occupation</th>
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</thead>
<tbody>
<tr>
<td></td>
<td>No.</td>
<td>%</td>
<td>No.</td>
<td>%</td>
<td>No.</td>
<td>%</td>
</tr>
<tr>
<td>Professional, Technical,</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Managerial</td>
<td>136</td>
<td>49.1</td>
<td>107</td>
<td>46.7</td>
<td>243</td>
<td>48.0</td>
</tr>
<tr>
<td>Clerical, Sales</td>
<td>59</td>
<td>21.3</td>
<td>47</td>
<td>20.5</td>
<td>106</td>
<td>20.9</td>
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<tr>
<td>Service</td>
<td>8</td>
<td>2.9</td>
<td>7</td>
<td>3.1</td>
<td>15</td>
<td>3.0</td>
</tr>
<tr>
<td>Student</td>
<td>22</td>
<td>7.9</td>
<td>3</td>
<td>1.3</td>
<td>25</td>
<td>4.9</td>
</tr>
<tr>
<td>Homemaker</td>
<td>35</td>
<td>12.7</td>
<td>43</td>
<td>18.8</td>
<td>78</td>
<td>15.4</td>
</tr>
<tr>
<td>Retired</td>
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<td>.7</td>
<td>12</td>
<td>5.2</td>
<td>14</td>
<td>2.8</td>
</tr>
<tr>
<td>Unemployed</td>
<td>4</td>
<td>1.5</td>
<td>3</td>
<td>1.3</td>
<td>7</td>
<td>1.4</td>
</tr>
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<td>Other</td>
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<td>3</td>
<td>1.3</td>
<td>8</td>
<td>1.6</td>
</tr>
<tr>
<td>No Response</td>
<td>6</td>
<td>2.1</td>
<td>4</td>
<td>1.8</td>
<td>10</td>
<td>2.0</td>
</tr>
</tbody>
</table>

**TOTAL** 277 100.0 229 100.0 506 100.0

Chi square = 23.871 with 7df; p = 0.0012

Note: "No Response" cell was deleted in calculation of chi square.
APPENDIX C

ITEMS FOR MORSTAIN AND SMART'S SIX FACTORS

OF THE EDUCATION PARTICIPATION SCALE
**Six Motivational Factors**

**Factor I Social Relationships**

<table>
<thead>
<tr>
<th>EPS Item No.</th>
<th>Loading*</th>
</tr>
</thead>
<tbody>
<tr>
<td>15. To fulfill a need for personal associations and friendships</td>
<td>.711</td>
</tr>
<tr>
<td>44. To make new friends</td>
<td>.691</td>
</tr>
<tr>
<td>17. To meet members of the opposite sex</td>
<td>.667</td>
</tr>
<tr>
<td>35. To improve my social relationships</td>
<td>.635</td>
</tr>
<tr>
<td>19. To participate in group activity</td>
<td>.616</td>
</tr>
<tr>
<td>10. To be accepted by others</td>
<td>.596</td>
</tr>
<tr>
<td>28. To become acquainted with congenial people</td>
<td>.511</td>
</tr>
<tr>
<td>39. To maintain or improve my social position</td>
<td>.495</td>
</tr>
<tr>
<td>21. To gain insight into myself and my personal problems</td>
<td>.443</td>
</tr>
<tr>
<td>2. To share a common interest with my spouse or a friend</td>
<td>.412</td>
</tr>
</tbody>
</table>

**Factor II External Expectations**

<table>
<thead>
<tr>
<th>EPS Item No.</th>
<th>Loading</th>
</tr>
</thead>
<tbody>
<tr>
<td>47. To comply with instructions from someone else</td>
<td>.808</td>
</tr>
<tr>
<td>36. To carry out the expectations of someone with formal authority</td>
<td>.807</td>
</tr>
<tr>
<td>6. To carry out the recommendation of some authority</td>
<td>.776</td>
</tr>
<tr>
<td>42. To comply with the suggestions of someone else</td>
<td>.672</td>
</tr>
<tr>
<td>33. To comply with my employer's policy</td>
<td>.670</td>
</tr>
<tr>
<td>38. To meet with some formal requirements</td>
<td>.542</td>
</tr>
<tr>
<td>37. To take part in an activity which is customary in the circle in which I move</td>
<td>.503</td>
</tr>
</tbody>
</table>

*'Responses were factor analyzed by the principal axis method using the equations given by Harmon and the resulting factors were analyzed by Cattell's "Scree Test" to assess the linearity of curvature of the eigenvalues. This test provided an analytical method for determining the appropriate number of factors to retain for rotation and analysis. The resulting factors were then orthogonally rotated using the Kaiser-varimax criterion." (Morstain and Smart, 1974, p. 85)"
Factor III  Social Welfare

<table>
<thead>
<tr>
<th>EPS Item No.</th>
<th>Loading</th>
</tr>
</thead>
<tbody>
<tr>
<td>32. To improve my ability to serve mankind</td>
<td>.726</td>
</tr>
<tr>
<td>24. To prepare for service to the community</td>
<td>.696</td>
</tr>
<tr>
<td>45. To improve my ability to participate in community work</td>
<td>.658</td>
</tr>
<tr>
<td>25. To gain insight into human relations</td>
<td>.649</td>
</tr>
<tr>
<td>4. To become more effective as a citizen of this city</td>
<td>.565</td>
</tr>
<tr>
<td>12. To supplement a narrow previous education</td>
<td>.414</td>
</tr>
</tbody>
</table>

Factor IV  Professional Advancement

<table>
<thead>
<tr>
<th>EPS Item No.</th>
<th>Loading</th>
</tr>
</thead>
<tbody>
<tr>
<td>11. To give me higher status in my job</td>
<td>.662</td>
</tr>
<tr>
<td>3. To secure professional advancement</td>
<td>.660</td>
</tr>
<tr>
<td>16. To keep up with competition</td>
<td>.553</td>
</tr>
<tr>
<td>20. To increase my competence in my job</td>
<td>.518</td>
</tr>
<tr>
<td>22. To help me earn a degree, diploma or certificate</td>
<td>.512</td>
</tr>
<tr>
<td>27. To clarify what I want to be doing five years from now</td>
<td>.464</td>
</tr>
<tr>
<td>30. To obtain some immediate practical benefit</td>
<td>.442</td>
</tr>
<tr>
<td>34. To keep up with others</td>
<td>.427</td>
</tr>
<tr>
<td>14. To acquire knowledge that will help with other courses</td>
<td>.406</td>
</tr>
</tbody>
</table>

Factor V  Escape/Stimulation

<table>
<thead>
<tr>
<th>EPS Item No.</th>
<th>Loading</th>
</tr>
</thead>
<tbody>
<tr>
<td>5. To get relief from boredom</td>
<td>.728</td>
</tr>
<tr>
<td>31. To get a break in the routine of home or work</td>
<td>.685</td>
</tr>
<tr>
<td>29. To provide a contrast to the rest of my life</td>
<td>.605</td>
</tr>
<tr>
<td>26. To have a few hours away from responsibilities</td>
<td>.588</td>
</tr>
<tr>
<td>9. To overcome the frustration of day to day living</td>
<td>.583</td>
</tr>
<tr>
<td>13. To stop myself from becoming a &quot;cabbage&quot;</td>
<td>.534</td>
</tr>
<tr>
<td>18. To escape the intellectual narrowness of my occupation</td>
<td>.456</td>
</tr>
<tr>
<td>40. To escape an unhappy relationship</td>
<td>.440</td>
</tr>
<tr>
<td>23. To escape television</td>
<td>.412</td>
</tr>
</tbody>
</table>
## Factor VI  Cognitive Interest

<table>
<thead>
<tr>
<th>EPS Item No.</th>
<th>Loading</th>
</tr>
</thead>
<tbody>
<tr>
<td>43. To learn just for the sake of learning</td>
<td>.663</td>
</tr>
<tr>
<td>1. To seek knowledge for its own sake</td>
<td>.615</td>
</tr>
<tr>
<td>8. To satisfy an inquiring mind</td>
<td>.573</td>
</tr>
</tbody>
</table>

(Morstain and Smart, 1974, pp. 86-88)
APPENDIX D

SUMMARY TABLE FOR STEPWISE DISCRIMINANT ANALYSIS (SPSS)
### SUMMARY TABLE

**STEPWISE DISCRIMINANT ANALYSIS (SPSS)**

<table>
<thead>
<tr>
<th>STEP</th>
<th>ACTION</th>
<th>ENTERED</th>
<th>REMOVED</th>
<th>VARS IN</th>
<th>WILKS LAMBDA</th>
<th>SIG</th>
<th>MINIMUM D SQUARED</th>
<th>SIG</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>FACT4</td>
<td>1</td>
<td></td>
<td>0.854658</td>
<td>0.0000</td>
<td>0.68685</td>
<td>0.0000</td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>INCOME</td>
<td>2</td>
<td></td>
<td>0.819716</td>
<td>0.0000</td>
<td>0.88830</td>
<td>0.0000</td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>FACT1</td>
<td>3</td>
<td></td>
<td>0.779549</td>
<td>0.0000</td>
<td>1.1422</td>
<td>0.0000</td>
<td></td>
</tr>
<tr>
<td>4</td>
<td>AGE</td>
<td>4</td>
<td></td>
<td>0.762876</td>
<td>0.0000</td>
<td>1.2554</td>
<td>0.0000</td>
<td></td>
</tr>
<tr>
<td>5</td>
<td>FACT5</td>
<td>5</td>
<td></td>
<td>0.747932</td>
<td>0.0000</td>
<td>1.3612</td>
<td>0.0000</td>
<td></td>
</tr>
<tr>
<td>6</td>
<td>FACT3</td>
<td>6</td>
<td></td>
<td>0.739224</td>
<td>0.0000</td>
<td>1.4248</td>
<td>0.0000</td>
<td></td>
</tr>
<tr>
<td>7</td>
<td>FACT2</td>
<td>7</td>
<td></td>
<td>0.732800</td>
<td>0.0000</td>
<td>1.4727</td>
<td>0.0000</td>
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<tr>
<td>8</td>
<td>EDUC</td>
<td>8</td>
<td></td>
<td>0.729955</td>
<td>0.0000</td>
<td>1.4942</td>
<td>0.0000</td>
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</tr>
</tbody>
</table>

### CLASSIFICATION FUNCTION COEFFICIENTS

(FISHER'S LINEAR DISCRIMINANT FUNCTIONS)

<table>
<thead>
<tr>
<th>SAMPLE</th>
<th>1 (Credit)</th>
<th>2 (Non-credit)</th>
</tr>
</thead>
<tbody>
<tr>
<td>FACT4</td>
<td>1.868551</td>
<td>1.539617</td>
</tr>
<tr>
<td>INCOME</td>
<td>0.8021909</td>
<td>1.039901</td>
</tr>
<tr>
<td>FACT1</td>
<td>0.9169279</td>
<td>1.578253</td>
</tr>
<tr>
<td>AGE</td>
<td>0.3554741</td>
<td>0.3933064</td>
</tr>
<tr>
<td>FACT5</td>
<td>0.8590048</td>
<td>0.5977150</td>
</tr>
<tr>
<td>FACT3</td>
<td>0.2735391</td>
<td>0.1348153</td>
</tr>
<tr>
<td>FACT2</td>
<td>0.1590348</td>
<td>-0.6259658D-02</td>
</tr>
<tr>
<td>EDUC</td>
<td>2.132224</td>
<td>2.232598</td>
</tr>
<tr>
<td>(CONSTANT)</td>
<td>-20.84369</td>
<td>-22.73943</td>
</tr>
</tbody>
</table>

### VARIABLES IN THE ANALYSIS AFTER STEP 8

<table>
<thead>
<tr>
<th>VARIABLE</th>
<th>PARTIAL F VALUES</th>
</tr>
</thead>
<tbody>
<tr>
<td>FACT4</td>
<td>22.073</td>
</tr>
<tr>
<td>INCOME</td>
<td>20.815</td>
</tr>
<tr>
<td>FACT1</td>
<td>41.688</td>
</tr>
<tr>
<td>AGE</td>
<td>11.668</td>
</tr>
<tr>
<td>FACT5</td>
<td>9.0149</td>
</tr>
<tr>
<td>FACT3</td>
<td>4.0204</td>
</tr>
<tr>
<td>FACT2</td>
<td>4.4694</td>
</tr>
<tr>
<td>EDUC</td>
<td>1.8629</td>
</tr>
</tbody>
</table>
APPENDIX E

CODING GUIDE FOR DISCRIMINATING INDEPENDENT VARIABLES
CODING GUIDE FOR
DISCRIMINATING INDEPENDENT VARIABLES

Boshier's Education Participation Scale (EPS)

Code actual response on each of the 48 EPS items according to the possible range of 1-9. (Note: See page 48 for procedure to calculate factor scores.)

Annual Household Income

CODE
1 Less than $8,000
2 $ 8,000 -- 12,000
3 $12,001 -- 16,000
4 $16,001 -- 20,000
5 $20,001 -- 24,000
6 $24,001 -- 28,000
7 $28,001 -- 32,000
8 More than $32,000

Age

Code exact response.

Highest Completed Level of Formal Education

CODE
1 Less than High School
2 High School
3 Less than Bachelor's Degree
4 Bachelor's Degree
5 Less than Master's Degree
6 Master's Degree
7 Less than Doctoral Degree
8 Doctoral Degree (includes Post-Doctoral Study)
APPENDIX F

SURVEY INSTRUMENT
Your Code Number is ____________________

QUESTIONNAIRE FOR ADULT STUDENTS ENROLLED
IN CONTINUING EDUCATION COURSES

The Ohio State University
Columbus, Ohio 43210

We are conducting a survey of adult participants in Continuing Education courses. Your cooperation in completing this form is appreciated. There are no trick questions or best answers.

General Instructions

1. Please read all instructions carefully.
2. Please answer all questions. All responses will be considered confidential.
3. If you have difficulty in responding to any item, please give your best estimate or appraisal. You may wish to comment in the margin.
4. When you have completed the entire questionnaire, please recheck it to ensure that all items have been answered.
5. Your name is not needed on the questionnaire. The code number in the upper right corner is only to facilitate processing and follow-up.
6. Please return your completed questionnaire in the pre-addressed, stamped envelope.
7. Please mail your completed questionnaire as soon as possible and not later than
PART I

General Information

1. Name of the city and county in which you reside (please print):
   ____________________________  ____________________________
   (City)                       (County)

2. Your highest completed level of formal education (check one):
   ____ Less than High School
   ___ High School
   ___ Less than Bachelor's Degree
   ___ Bachelor's Degree
   ___ Less than Master's Degree
   ___ Master's Degree
   ___ Less than Doctoral Degree
   ___ Doctoral Degree
   ___ Post-doctoral Study

3. Age at your most recent birthday: _____ Years

4. Sex (Circle the appropriate item number): 1. Male 2. Female

5. Marital Status (Circle the appropriate item number):

6. Total yearly income of your household (Circle the appropriate item number):
   1. Less than $5,000
   2. $6,001-12,000
   3. $12,001-16,000
   4. $16,001-20,000
   5. $20,001-24,000
   6. $24,001-28,000
   7. $28,001-32,000
   8. More than $32,000.

7. Your present occupation and the position you hold. (If homemaker, student, retired, or unemployed, so indicate):
   ____________________________  ____________________________
   (Occupation)                   (Position)
PART II

Instructions

This portion of the questionnaire is to find out the way in which certain important events in our society affect different people. Each item consists of a pair of alternatives lettered a or b. Please select the one statement of each pair (and only one) which you more strongly believe to be the case as far as you are concerned. Be sure to select the one you actually believe to be more true rather than the one you think you should choose or the one you would like to be true. This is a measure of personal belief; obviously there are no right or wrong answers.

Please answer these items carefully but do not spend too much time on any one item. Be sure to find an answer for every choice. Please circle the letter of the statement you choose.

In some instances you may discover that you believe both statements or neither one. In such cases, be sure to select the one you more strongly believe to be the case as far as you are concerned. Also try to respond to each item independently when making your choice; do not be influenced by your previous choices.

Items

1. a. Children get into trouble because their parents punish them too much.
   b. The trouble with most children nowadays is that their parents are too easy with them.

2. a. Many of the unhappy things in people's lives are partly due to bad luck.
   b. People's misfortunes result from the mistakes they make.

3. a. One of the major reasons why we have wars is because people do not take enough interest in politics.
   b. There will always be wars, no matter how hard people try to prevent them.

4. a. In the long run people get the respect they deserve in this world.
   b. Unfortunately, an individual's worth often passes unrecognized no matter how hard he tries.

5. a. The idea that teachers are unfair to students is nonsense.
   b. Most students do not realize the extent to which their grades are influenced by accidental happenings.

6. a. Without the right breaks one cannot be an effective leader.
   b. Capable people who fail to become leaders have not taken advantage of their opportunities.

7. a. No matter how hard you try some people just do not like you.
   b. People who cannot get others to like them do not understand how to get along with others.

8. a. Heredity plays the major role in determining one's personality.
   b. It is one's experiences in life which determine what he is like.
9. a. I have often found that what is going to happen will happen.  
b. Trusting to fate has never turned out as well for me as making a decision to take a definite course of action.

10. a. In the case of the well-prepared student there is rarely, if ever, such a thing as an unfair test.  
b. Many times exam questions tend to be so unrelated to course work that studying is really useless.

11. a. Becoming a success is a matter of hard work; luck has little or nothing to do with it.  
b. Getting a good job depends mainly on being in the right place at the right time.

12. a. The average citizen can have an influence in government decisions.  
b. This world is run by the few people in power, and there is not much the little guy can do about it.

13. a. When I make plans, I am almost certain that I can make them work.  
b. It is not always wise to plan too far ahead because many things turn out to be a matter of good or bad fortune anyhow.

14. a. There are certain people who are just no good.  
b. There is some good in everybody.

15. a. In my case getting what I want has little or nothing to do with luck.  
b. Many times we might just as well decide what to do by flipping a coin.

16. a. Who gets to be the boss often depends on who was lucky enough to be in the right place first.  
b. Getting people to do the right thing depends upon ability; luck has little or nothing to do with it.

17. a. As far as world affairs are concerned, most of us are the victims of forces we can neither understand nor control.  
b. By taking an active part in political and social affairs the people can control world events.

18. a. Most people do not realize the extent to which their lives are controlled by accidental happenings.  
b. There really is no such thing as "luck."

19. a. One should always be willing to admit mistakes.  
b. It is usually best to cover up one's mistakes.

20. a. It is hard to know whether or not a person really likes you.  
b. How many friends you have depends upon how nice a person you are.
21. a. In the long run the bad things that happen to us are balanced by the good ones.  
   b. Most misfortunes are the result of lack of ability, ignorance, laziness, or all of these.

22. a. With enough effort we can wipe out political corruption.  
   b. It is difficult for people to have much control over the things politicians do in office.

23. a. Sometimes I cannot understand how teachers arrive at the grades they give.  
   b. There is a direct connection between how hard I study and the grades I get.

24. a. A good leader expects people to decide for themselves what they should do.  
   b. A good leader makes it clear to everybody what their jobs are.

25. a. Many times I feel that I have little influence over the things that happen to me.  
   b. It is impossible for me to believe that chance or luck plays an important role in my life.

26. a. People are lonely because they do not try to be friendly.  
   b. There is not much use in trying too hard to please people; if they like you, they like you.

27. a. There is too much emphasis on athletics in high school.  
   b. Team sports are an excellent way to build character.

28. a. What happens to me is my own doing.  
   b. Sometimes I feel that I do not have enough control over the direction my life is taking.

29. a. Most of the time I cannot understand why politicians behave the way they do.  
   b. In the long run the people are responsible for bad government on a national as well as on a local level.
**Instructions**

Thinking back to why you enrolled in the course(s) you have chosen this quarter, please indicate the extent to which each of the reasons listed below influenced you to participate. Please read each statement carefully and circle one of the numbers (from 9-very much influence to 1-very little influence) opposite each statement.

<table>
<thead>
<tr>
<th>Reason</th>
<th>Very Much Influence</th>
<th>Much Influence</th>
<th>Moderate Influence</th>
<th>Little Influence</th>
<th>Very Little Influence</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. To seek knowledge for its own sake</td>
<td>9</td>
<td>8</td>
<td>7</td>
<td>6</td>
<td>5</td>
</tr>
<tr>
<td>2. To share a common interest with my spouse or a friend</td>
<td>9</td>
<td>8</td>
<td>7</td>
<td>6</td>
<td>5</td>
</tr>
<tr>
<td>3. To secure professional advancement</td>
<td>9</td>
<td>8</td>
<td>7</td>
<td>6</td>
<td>5</td>
</tr>
<tr>
<td>4. To become more effective as a citizen of this city</td>
<td>9</td>
<td>8</td>
<td>7</td>
<td>6</td>
<td>5</td>
</tr>
<tr>
<td>5. To get relief from boredom</td>
<td>9</td>
<td>8</td>
<td>7</td>
<td>6</td>
<td>5</td>
</tr>
<tr>
<td>6. To carry out the recommendation of some authority</td>
<td>9</td>
<td>8</td>
<td>7</td>
<td>6</td>
<td>5</td>
</tr>
<tr>
<td>7. To respond to the fact that I am surrounded by people who continue to learn</td>
<td>9</td>
<td>8</td>
<td>7</td>
<td>6</td>
<td>5</td>
</tr>
<tr>
<td>8. To satisfy an inquiring mind</td>
<td>9</td>
<td>8</td>
<td>7</td>
<td>6</td>
<td>5</td>
</tr>
<tr>
<td>9. To overcome the frustration of day to day living</td>
<td>9</td>
<td>8</td>
<td>7</td>
<td>6</td>
<td>5</td>
</tr>
<tr>
<td>10. To be accepted by others</td>
<td>9</td>
<td>8</td>
<td>7</td>
<td>6</td>
<td>5</td>
</tr>
<tr>
<td>11. To give me higher status in my job</td>
<td>9</td>
<td>8</td>
<td>7</td>
<td>6</td>
<td>5</td>
</tr>
<tr>
<td>12. To supplement a narrow previous education</td>
<td>9</td>
<td>8</td>
<td>7</td>
<td>6</td>
<td>5</td>
</tr>
<tr>
<td></td>
<td>Very Much Influence</td>
<td>Much Influence</td>
<td>Moderate Influence</td>
<td>Little Influence</td>
<td>Very Little Influence</td>
</tr>
<tr>
<td>---</td>
<td>---------------------</td>
<td>----------------</td>
<td>-------------------</td>
<td>------------------</td>
<td>----------------------</td>
</tr>
<tr>
<td>13. To stop myself from becoming a &quot;vegetable&quot;</td>
<td>9</td>
<td>8</td>
<td>7</td>
<td>6</td>
<td>5</td>
</tr>
<tr>
<td>14. To acquire knowledge that will help with other educational courses</td>
<td>9</td>
<td>8</td>
<td>7</td>
<td>6</td>
<td>5</td>
</tr>
<tr>
<td>15. To fulfill a need for personal associations and friendships</td>
<td>9</td>
<td>8</td>
<td>7</td>
<td>6</td>
<td>5</td>
</tr>
<tr>
<td>16. To keep up with competition</td>
<td>9</td>
<td>8</td>
<td>7</td>
<td>6</td>
<td>5</td>
</tr>
<tr>
<td>17. To meet members of the opposite sex</td>
<td>9</td>
<td>8</td>
<td>7</td>
<td>6</td>
<td>5</td>
</tr>
<tr>
<td>18. To escape the intellectual narrowness of my occupation</td>
<td>9</td>
<td>8</td>
<td>7</td>
<td>6</td>
<td>5</td>
</tr>
<tr>
<td>19. To participate in group activity</td>
<td>9</td>
<td>8</td>
<td>7</td>
<td>6</td>
<td>5</td>
</tr>
<tr>
<td>20. To increase my competence in my job</td>
<td>9</td>
<td>8</td>
<td>7</td>
<td>6</td>
<td>5</td>
</tr>
<tr>
<td>21. To gain insight into myself and my personal problems</td>
<td>9</td>
<td>8</td>
<td>7</td>
<td>6</td>
<td>5</td>
</tr>
<tr>
<td>22. To help me earn a degree, diploma, or certificate</td>
<td>9</td>
<td>8</td>
<td>7</td>
<td>6</td>
<td>5</td>
</tr>
<tr>
<td>23. To escape television</td>
<td>9</td>
<td>8</td>
<td>7</td>
<td>6</td>
<td>5</td>
</tr>
<tr>
<td>24. To prepare for service to the community</td>
<td>9</td>
<td>8</td>
<td>7</td>
<td>6</td>
<td>5</td>
</tr>
<tr>
<td>25. To gain insight into human relations</td>
<td>9</td>
<td>8</td>
<td>7</td>
<td>6</td>
<td>5</td>
</tr>
<tr>
<td></td>
<td>Very Much Influence</td>
<td>Much Influence</td>
<td>Moderate Influence</td>
<td>Little Influence</td>
<td>Very Little Influence</td>
</tr>
<tr>
<td>---</td>
<td>---------------------</td>
<td>----------------</td>
<td>--------------------</td>
<td>------------------</td>
<td>-----------------------</td>
</tr>
<tr>
<td>26. To have a few hours away from responsibilities</td>
<td>9</td>
<td>8</td>
<td>7</td>
<td>6</td>
<td>5</td>
</tr>
<tr>
<td>27. To clarify what I want to be doing 5 years from now</td>
<td>9</td>
<td>8</td>
<td>7</td>
<td>6</td>
<td>5</td>
</tr>
<tr>
<td>28. To become acquainted with congenial people</td>
<td>9</td>
<td>8</td>
<td>7</td>
<td>6</td>
<td>5</td>
</tr>
<tr>
<td>29. To provide a contrast to the rest of my life</td>
<td>9</td>
<td>8</td>
<td>7</td>
<td>6</td>
<td>5</td>
</tr>
<tr>
<td>30. To obtain some immediate practical benefit</td>
<td>9</td>
<td>8</td>
<td>7</td>
<td>6</td>
<td>5</td>
</tr>
<tr>
<td>31. To get a break in the routine of home or work</td>
<td>9</td>
<td>8</td>
<td>7</td>
<td>6</td>
<td>5</td>
</tr>
<tr>
<td>32. To improve my ability to serve mankind</td>
<td>9</td>
<td>8</td>
<td>7</td>
<td>6</td>
<td>5</td>
</tr>
<tr>
<td>33. To comply with my employer's policy</td>
<td>9</td>
<td>8</td>
<td>7</td>
<td>6</td>
<td>5</td>
</tr>
<tr>
<td>34. To keep up with others</td>
<td>9</td>
<td>8</td>
<td>7</td>
<td>6</td>
<td>5</td>
</tr>
<tr>
<td>35. To improve my social relationships</td>
<td>9</td>
<td>8</td>
<td>7</td>
<td>6</td>
<td>5</td>
</tr>
<tr>
<td>36. To carry out the expectations of someone with formal authority</td>
<td>9</td>
<td>8</td>
<td>7</td>
<td>6</td>
<td>5</td>
</tr>
<tr>
<td>37. To take part in an activity which is customary in the circles in which I move</td>
<td>9</td>
<td>8</td>
<td>7</td>
<td>6</td>
<td>5</td>
</tr>
<tr>
<td>38. To meet with some formal requirements</td>
<td>9</td>
<td>8</td>
<td>7</td>
<td>6</td>
<td>5</td>
</tr>
<tr>
<td>39. To maintain or improve my social position</td>
<td>9</td>
<td>8</td>
<td>7</td>
<td>6</td>
<td>5</td>
</tr>
</tbody>
</table>


<table>
<thead>
<tr>
<th></th>
<th>Very Much Influence</th>
<th>Much Influence</th>
<th>Moderate Influence</th>
<th>Little Influence</th>
<th>Very Little Influence</th>
</tr>
</thead>
<tbody>
<tr>
<td>40. To escape an unhappy relationship</td>
<td>9</td>
<td>8</td>
<td>7</td>
<td>6</td>
<td>5</td>
</tr>
<tr>
<td>41. To provide a contrast to my previous education</td>
<td>9</td>
<td>8</td>
<td>7</td>
<td>6</td>
<td>5</td>
</tr>
<tr>
<td>42. To comply with the suggestions of someone else</td>
<td>9</td>
<td>8</td>
<td>7</td>
<td>6</td>
<td>5</td>
</tr>
<tr>
<td>43. To learn just for the sake of learning</td>
<td>9</td>
<td>8</td>
<td>7</td>
<td>6</td>
<td>5</td>
</tr>
<tr>
<td>44. To make new friends</td>
<td>9</td>
<td>8</td>
<td>7</td>
<td>6</td>
<td>5</td>
</tr>
<tr>
<td>45. To improve my ability to participate in community work</td>
<td>9</td>
<td>8</td>
<td>7</td>
<td>6</td>
<td>5</td>
</tr>
<tr>
<td>46. To comply with the fact that people with prestige and status attend college</td>
<td>9</td>
<td>8</td>
<td>7</td>
<td>6</td>
<td>5</td>
</tr>
<tr>
<td>47. To comply with instructions from someone else</td>
<td>9</td>
<td>8</td>
<td>7</td>
<td>6</td>
<td>5</td>
</tr>
<tr>
<td>48. To assist me when I travel</td>
<td>9</td>
<td>8</td>
<td>7</td>
<td>6</td>
<td>5</td>
</tr>
</tbody>
</table>

If there are additional reasons that caused you to enroll in the course(s) you have chosen this quarter, please list them below:

Thank you for completing this questionnaire. You should:

1) Make sure you have completed EVERY item according to instructions.
2) Insert the completed questionnaire into the pre-addressed envelope provided and MAIL PROMPTLY.

YOUR PARTICIPATION IN THIS PROJECT IS APPRECIATED.
BIBLIOGRAPHY


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