THE UNIVERSITY OF OKLAHOMA

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COMPARISON OF THE LOCUS OF CONTROL EXPECTANCIES OF TWO GROUPS OF OLDER ADULTS IN RELATION TO PARTICIPATION IN HIGHER EDUCATION

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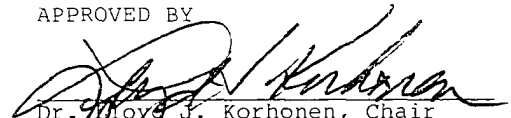

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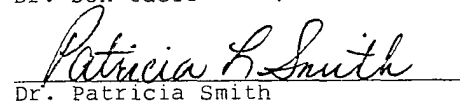

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With fond memories I acknowledge the contributions of my family to my efforts. It was my mother, Odah Blanche Strickland, who taught me "the value of work", my father Hugh Herbert Cade Strickland, who taught me to "dream", my sisters Marie McMahan and Juanita Harms, who always believed in me, and all those other members of my family who accepted me even with this incomprehensible goal.

DEDICATION

It is to my brother, Herbert Leroy Strickland, that this work is dedicated.

> Death ends a life, but it does not end a relationship, which struggles on in the survivor's mind toward some resolution which it may never find.
>
> Robert Anderson
>
> I Never Sang For My Father In E. Segal (1977) Oliver's Story. New York: Harper & Rowe

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ABSTRACT

COMPARISON OF THE LOCUS OF CONTROL EXPECTANCIES OF TWO GROUPS OF OLDER ADULTS IN RELATION TO PARTICIPATION IN HIGHER EDUCATION

By: Barbara Elizabeth Strickland Drobnies

Major Professor: Lloyd J. Korhonen, Ph.D.

In a sample of 118 older adults, a comparison was made between the 53 subjects who were participating and the 65 subjects who were not participating in a program in higher education for which they could be granted academic credit. This comparison was made to ascertain the relationship between locus of control as measured by the Rotter I-E Scale and participation in a program in higher education by participation or non-participation, gender, ages 50 to 55 and ages 60 to 70, and educational level.

A significant difference in locus of control was found between males and females in the total group of subjects but no significant differences were identified on any of the variables between the participants and non-participants and the locus of control for the two groups although both groups were very internal in their locus of control.

A further comparison with another study (Wolk and Kurtz, 1975) also indicated no significant differences

between that study group and the participant group in this study.

Locus of control was determined not to be a description of a personality characteristic that was significantly related to participation in higher education; however, implications for program planning are discussed.

COMPARISON OF THE LOCUS OF CONTROL EXPECTANCIES OF TWO GROUPS OF OLDER ADULTS IN RELATION TO PARTICIPATION IN HIGHER EDUCATION

CHAPTER I

INTRODUCTION

Introductory Statement

Basic to an understanding of our world is the development of theoretical concepts as the framework for explaining the events or situations that occur in our society. The phenomena that influence the participation or lack of participation by adults in lifelong educational endeavors has been an area of conjecture and study by individuals interested in the development of adult learning theory.

K. Patricia Cross (1981) developed a model as a conceptual framework for understanding the participation of adults in learning activities. This model (COR) is based upon the premise that the act of participation in learning activities "...is not a single act but the result of a chain of responses, each based on an evaluation of the position of the individual in his or her environment" (p. 125). She notes that to understand adult participation we need to start at the beginning point of the COR model and

attempt to understand the internal psychological variables that affect the individual's self-evaluation (p. 130).

One personality characteristic that seems appropriate for consideration is the concept of locus of control. Many studies have been conducted on the locus of control concept but no studies have been done that examine the relationship of this personality characteristic and participation in programs of higher education by older individuals.

Locus of control (LOC) is a concept derived from social learning theory. Rotter (1966) explains that social learning theory describes the nature of reinforcement as a factor in strengthening an expectancy that a behavior or situation will be followed by that reinforcement if it occurs again in the future.

Rotter (1977) noted that "an event regarded by some persons as a reward or reinforcement may be differently perceived and reacted to by others" (p. 1). One of the factors that influences this response is the individual's perception of the degree to which his own behavior is the controlling force resulting in the reward or reinforcement (p. 1).

In defining the concept of locus of control Rotter (1966) states:

> When a reinforcement is perceived by the subject as following some action of his own but not being entirely contingent upon his action, then, in our culture, it is typically perceived as the result of luck, chance, fate, as under the control of

> powerful others, or as unpredictable because of the great complexity of the forces surrounding him. When the event is interpreted in this way by an individual, we have labeled this a belief in external control. If the person perceives that the event is contingent upon his own behavior or his own relatively permanent characteristics we term this a belief in internal control. (p. 1)

He further states, "A generalized attitude, belief, or expectancy regarding the nature of the causal relationship between one's own behavior and its consequences might affect a variety of behavioral choices in a broad band of life situations" (p. 2).

In describing the COR model, Cross (1981) states:

> While it is still far from the kind of theory that can be used to predict who will participate in which learning activity, it may be useful in organizing existing knowledge and in suggesting more sharply focused research projects to add to the gradual accumulation of knowledge. (p. 124)

Purpose of the Study

Purpose of this study was to examine the locus of control of individuals age 55 to 70 who are and who are not participating in organized educational programs in higher education in order to identify significant relationships that may exist between locus of control and participation or lack of participation in this type of educational activity.

Significance of the Study

With the decreasing availability of potential students

in the conventional college age groups and an increasing number of older adults with higher educational achievement levels, the institutions of higher education are becoming increasingly more interested in identification of those members of this age group for whom they can offer an educational service. COR model indicates that participation in adult learning is a chain of responses which begins with the individual's self-evaluation. Information about the self-evaluation of those older adults who participate in organized programs in higher education may assist educators in their understanding of the personality characteristics of older adult students.

In addition, data about the self-evaluation of these participants related to their belief about the locus of control of expectations of reinforcement may add to the body of knowledge of adult learning theory related to participation in programs in higher education in similar situations, and to the efficacy of the locus of control scale as an indicator of behaviors associated with locus of control expectancies.

Statement of the Problem

Is there a significant difference in the locus of control, as measured by the Rotter I-E scale, between groups

of individuals age 55 to 70 who are and who are not participating in an organized educational program in higher education?

Hypotheses

H_1 There will be no significant difference in the locus of control between groups of individuals age 55 to 70 who are and are not participating in organized programs in higher education.

H_2 There will be no significant differences in the locus of control related to gender between groups of individuals age 55 to 70 who are and who are not participating in organized programs in higher education.

H_3 There will be no significant difference in the locus of control between groups of individuals age 55-59, and age 60-69 who are and who are not participating in organized programs in higher education.

Definition of Terms

Locus of Control (LOC) - Score on the Rotter I-E scale after elimination of the 6 "filler" questions.

Internal LOC - A score of 11 or less on the Rotter I-E scale after elimination of the 6 "filler" questions.

External LOC - A score of 12 or more on the Rotter I-E scale after elimination of the 6 "filler" questions.

Participation in an organized educational program in higher education - Enrollment in a class or classes for

which participants may be given academic credit upon completion of the course.

Older adults - Individuals age 55 and older.

Educational Level I - Individuals who have completed high school as a minimum level and a baccalaureate as a maximum level of educational attainment.

Educational Level II - Individuals who have attained either a masters or doctorate level of educational attainment.

Non-participant Group - Randomly selected employees and retired employees of a large public university in a midwestern state who are age 55 to 70, who have completed high school and/or high school equivalency as measured by the General Educational Development Test, and who are not participating in a course for which they could be given academic credit.

Participant Group - Students, age 55-70, enrolled in a large midwest university in classes for which they may be given academic credit upon completion of the course.

Assumptions

Subjects will answer the questions truthfully.

Subjects will not collaborate with other persons in making decisions on their responses.

CHAPTER II

LITERATURE REVIEW

Gerontology

Gerontology has been defined as "...the study of the older person and...the aging process" (Breen & Morris 1983, p. 4); and "a field of investigation composed of the results from various traditional disciplines and professions directed toward understanding the processes of aging and their consequences" (Atchley, 1980, p. 294). Breen and Morris (1983) state that gerontology is an emerging discipline that is distinguished from geriatrics which has as its area of concern the health care and treatment of older persons. Primary work of the discipline has been in the areas of understanding the aging process, amelioration of that process, seeking ways to make life easier for older persons, and study of the individual, which has fostered social and political activities and organizations (p. 5).

Gerontology is considered both as a distinct discipline and as interdisciplinary in nature (Breen & Morris, 1983; McKee, 1982). Crandall (1980) states:

> Although there is a debate over whether gerontology is a discipline, profession, field, or subfield of disciplines, there are a growing number of individuals who refer to themselves as gerontologists, a large number of meetings solely concerned with the topics of aging and the aged,

> and many professional journals entirely devoted to aging and the aged. (p. 45)

Atchley (1980) describes gerontology as a "...loosely structured amalgam of information and ideas from most of the traditional fields of academic study and of human service practice" (pp. 5-6). He noted that there are four related but separate areas of study. One is the biological area which deals with physical aging. Another is the psychological aspects dealing with sensory processes, perceptions, motor skills, intelligence, problem-solving, understanding, learning, drives, and emotions. The third is the behavioral aspects dealing with the combination of biological and psychological change within a social environment including attitudes, expectations, motives, self-images, social roles, personality, and psychological adjustments. The last is the sociological aspects dealing with the society in which aging occurs and the influence of each upon the other such as health, income, work, and leisure of older persons as they relate to their families, friends, voluntary associations, and others (Atchley, 1980, pp. 5-6).

One approach to the understanding of aging is to view it from a biological prospective (Harman, 1983) concisely summarizes this point of view in his statement:

> Aging is a biological process that goes on continuously from conception to death. Aging is ...built in obsolescence, ensuring individual death to permit species survival. If living things did not die, they would long ago have exhausted the resources of earth. (p. 142)

He notes that aging "...is the sum of the subtle, widespread deleterious changes continuously taking place in cells and tissues" (p. 142). These changes occur everywhere in the body. They can be observed as a decrease in strength and endurance, hair graying, decrease in hearing and vision, increased susceptibility to infection, loss in height and, in extreme cases, a loss of intellectual capacity (p. 143-44).

Another approach is to view the aged with a major emphasis on the social factors and forces that impact upon them. Breen and Morris (1983) state that social gerontology is concerned with "...the social definition of the word old, the matter of age grading, the expectations of the behavior of older persons, and the normative aspects of aging, which determines much of one's behavior" (p. 4). Atchley (1980) states social gerontology "...deals primarily with the nonphysical aspects of aging.... Biological and psychological aspects of aging interest the social gerontologist only insofar as they influence the ways in which the individual and society adapt to each other" (p. 6). Philibert (1982) comments that "human aging is a complex process whose biological conditions are embedded in and modified by a social and cultural... context" (p. 321).

Another area of gerontology deals with the behavioral aspects various theories of aging have been developed

to explain the behavior of older adults. One of these, disengagement theory, describes the process of aging as withdrawal. Cumming and Henry (1961) stated that "...aging is an inevitable mutual withdrawal or disengagement, resulting in decreased interaction between the aging person and others in the social system he belongs to (sic)" (p. 14).

Transfer of power from one generation to another is the purpose of this withdrawal and thus is beneficial to society. Successful aging for the individual is illustrated by a voluntary withdrawal and separation from his/her various roles and activities. When this does not occur, a disequilibrium exists between the individual and what society expects (Atchley, 1980, pp. 25-26; Covey, 1983b; Cummings & Henry, 1961, p. 46).

Activity theory of aging indicates that as an individual ages he will continue to maintain his interests and activity level with the goal of attempting to hold on to the roles and activities of his middle years. Loss of these roles results in decreased life satisfaction unless they are replaced by other satisfying roles which require a maintenance of a similar activity level (Albrecht, 1951; Atchley, 1980, pp. 27, 188-189; Covey, 1983; Knapp, 1977; Kuypers & Bengston, 1973; Lemon, Bengston, & Peterson, 1972; Maddox, 1963).

Albrecht (1951) stated that "...the majority of old people are (sic) still active and carried responsibilities concentrated mainly in the home and in family relationships... Active social participation in younger years seem to lead to better adjustment in old age..."(p. 144).

In discussing life-span theory Peterson (1975) states:

> It is neither appropriate to deny the aging process and attempt to stay young forever nor to unquestioningly accept the negative stereotypes of aging and become "old" when physiological or psychological processes do not require it. Aging is normal and universal, but it does not mean that the enjoyment or scope of life must be drastically constricted at any point in the chronological process. (p. 440)

According to Covey (1981) adult behavior can take many different directions because each older person has unique characteristics that influence the ability to maintain social roles. He indicated that as resources and abilities increase, and restrictiveness of the social structure decreases, the ability to maintain and continue desired social roles increase. The desire to continue a social role is related to the level of satisfaction in the role for the individual in his earlier life.

Covey (1983b) reviewed some of the theories of aging and commented that assumption of a student role would be viewed in different ways if looked at from the viewpoint of the various theories. Disengagement theory would find the older student"... asynchronized (sic) with society ... failing to surrender their educational role in society ...

being unsuccessful in adapting to the aging process" (p. 97). Activity theorists would support participation in the student role because it "...constitutes activity which is central to successful aging ... to deny their aging as long as possible" (p. 98).

Life-span theory would support the view that participation in the college student role by the aged is negative because the role would not be the appropriate behavior and role for their age, however, education, from the life span perspective, would be appropriate to meet the demands of life at each stage in the life cycle (Covey, 1983b; Gnagey, 1964; Peterson, 1975). Baltes and Schaie (1973) advocate education throughout the life span because it "...could facilitate understanding between cohorts by assuring maximum development of abilities at all age levels" (p. 320).

Covey (1981, 1983b) indicated that continuity theory is very compatible with the student role for older persons as they will have established this role earlier in life and will thus have a predisposition to the role. He states "...participation ... is a form of adaptation and an expression of the variety of responses available" (Covey, 1983b, p. 104).

Houle (1974) states successful adjustment to old age requires modification of life style, expansion of personal interests, and discovery of fresh outlets for ideas. He

indicates that education can diminish disengagement, provide a sense of personal dignity and satisfaction, and assists the individual to remain a part of normal community life and maintain vitality of body and mind. (pp. 441-442)

Participation in organized programs in higher education by older persons has been limited, even though the population of the United States is getting older. Between 1950 and 1980 the number of people age 55 and older increased from 26 to 47 million or from 17 to 21 percent of the total population. (Storey, 1983, p. 10; U.S. Bureau of Census, 1981). In 1980, 9.6 percent of the population was between age 55 and 64, and 11.1 percent were age 65 or older (U. S. Bureau of Census, 1981). Karp & Yoals (1982) state that everyday there is "...a net increase of 1,000 persons older than 65...an absolute increase of 3.5 million persons a year" (p. 5).

Population projections, published in 1975 and 1977, estimate the median age in the year 2000 will be 35.5, an increase from 29.0 in 1976 (U. S. Bureau of Census, 1975, 1977). It is noted that:

> The population 65 years and over, which is expected to grow at a declining rate during the remainder of the 20th century, is projected to grow from 32 million in 2005 to 55 million in 2030.... the projected increase of 23 million in this 25-year period is equal to the current population 65 years and over. (U. S. Bureau of Census, 1977, p. 9)

The Digest of Education statistics (1982) reported the total enrollment in institutions of higher education was 12 million; a 15.5 percent increase between 1974 to 1979, with women, Blacks and other races, persons 35 years and older, and part-time students showing the most substantial gains. Students age 35 and older comprised 10.4 percent of the total in 1974 and 12.3 percent in 1979 (Grant & Eiden, 1982, pp. 83-84). About 2.5 million or 5.3 percent of the total population age 55 and older participated as full or part time students in high school or college degree programs in 1981 (U. S. Department of Education, 1981, as reported in Grant & Eiden, 1982).

Peterson (1976) stated, "We are very rapidly becoming one of the world's older populations. If the task of education is broadly seen as that of creative adaptation, changing personal, social and cultural tasks, the educational system must refocus on the last half of life" (p. 169).

In recent years institutions of higher education have demonstrated an increasing interest in older people as this group has expanded its numbers and as the concept of lifelong learning has developed. This interest rests upon many factors including the realization that while this group is expanding, there is a corresponding decrease in the younger group related to the percent of each group in the total

population. These institutions must consider the economic and social factors and responsibilities that this implies (Covey, 1983a; Euster, 1982; Glenny, 1980; Graubard, 1974; Jacobowitz & Shannan 1982; McNamara, 1980; Peterson, 1978; Rowaniok, 1983; Spinetta & Hickey, 1975; Thorson, 1978).

During the past twenty-five years interest has grown in providing organized education for the growing number of middle age and elderly citizens. "Institutions of higher education have only recently joined in this educational endeavor ... the middle aged and elderly have become a potentially productive source for present and future student clientele" (Jacobwitz and Shannan, 1982, pp. 545-546).

Bader (1981) comments:

> The upsurge in the availability of opportunities for older persons at colleges and universities throughout the country probably not only represents the desire of such institutions to serve their communities better but also may signal the beginning of a national recognition of the increased number of healthy older adults and of their potential market value as consumers of education as well as other commodities and as influencers of consumers of all ages. (p. 293)

Change is a common occurence in our society. Monk, (1981) states, "People can no longer anticipate living their lives in the same world into which they are born. The balance between social conditions, mores, and technical advances require repeated adaptation throughout an individual's lifetime" (p. 90).

One approach to this adaptation is education. Euster (1982) indicates some institutions of higher education "...have reported dramatic gains in enrollment by older students in regular, part-time, continuing education, and various nontraditional programs" (p. 71).

Even with these gains participation in programs offered in institutions of higher education remains minimal. Downey (1974) indicated less than two percent of older individuals were enrolled in institutions of higher learning. Solmon & Gordon (1981) state that "... recent trends indicate that more people over fifty are attending college but that they are generally not in degree-credit programs" (p. 13).

Hooper & March (1978) conducted a study to ascertain the demographic characteristics of older students and their attitudes toward education as compared to non-students. Their findings indicated males see education as interactive and stimulating while females viewed it as the purview of experts. Education was viewed as appropriate at any age by 91.3 percent of the respondents. Personal contact, either as a prior student or through others, makes the institution more subjectively available to the older individual. The student group was, on the average, 3.91 years younger than the non-student group and the proportion married was much higher in the student group. Although less than 30 percent of the subjects were employed the student group's

participation in the labor force was almost twice as high as the non-student group. In relation to educational level, the non-student group reported 50.4 percent had 12 years or less of educational preparation as compared to 21.6 percent of the student group.

Hooper (1981) states elderly students enrolled in university class for credit were more likely to be employed home owners than older students who were auditing classes. Both groups, for-credit and auditing student, were more likely to be married than the non-student group. She states the for-credit older student represent "...a unique group of individuals....active and involved in community and career at a rather advanced age" (p. 393).

Perkins & Robertson-Tchabo (1981) state older students participating in the tuition waiver program at the University of Maryland College Park program for older adults were "...an active, healthy, mobile, geographically stable, well-educated group of men and women in their early years of retirement" (p. 273). Of this group 88 percent had some college and 65 percent had a bachelor's or advanced degree.

Kingston (1982) states 70 older students enrolled in Georgia institutions were found to be "...above average in educational achievement, physically and mentally vigorous, and interested in a variety of intellectual activities" (p. 91).

In a study of attitudes of older women toward participation in education at the university level Papalia-Finlay, Dellmann, Blackburn, Davis, and Roberts (1981) indicate that in general "...highly educated women over 65 are interested in participation in continuing educational programs offered by institutions of higher learning" (p. 165).

Heisel, Darkenwald and Anderson (1981) found participants, as compared to nonparticipants, tended to have higher levels of educational attainment and income, and were more likely to be younger, white, and female.

Daniel, Templin, & Shearon (1977) found " ...persons age 60 and older are generally social-culturally and improvement-learning oriented toward education" (p. 41).

Covey (1980) indicates the most important reason given for enrollment was the "...educational betterment of the individual, such as employment, bettering oneself and accomplishment" (p. 177). He indicates participation for many is "...simply a continuation of a lifetime educational activity" (p. 178).

Graney & Hays (1975) found that "both age (inversely related) and previous educational attainment (directly related) were significantly related to interest in further education...." (p. 357).

Hooper and Traupmann (1983) studied women students over age 50 as compared to a non-student and found the student group reported "...better health, fewer and less

severe depressive symptoms and higher autonomy" (p. 233). They noted that both student and non-students thought of themselves as middle aged or young, and indicate that age was an unimportant factor in their lives. A difference was noted related to how they viewed their roles with the non-student group being characterized as consisting of women "...who let life happen to them" (p. 239), while the student group was seen as "...women who make desired things happen for themselves" (p. 239).

Cross & Floria (1978) indicate that nearly 18 million adults were participating "... in some type of formal education program"(p. 17) in 1978. They state "older adults have demonstrated that they are responsive, well motivated, steady in their attendance habits, and often outstanding examples for undergraduates" (p. 17).

MacLeish (1981) notes:

> New knowledge and skills generate new interests and help people to discover hidden resources within themselves that can aid in their self-recovery and self-discovery.... Life's satisfactory resolution should include a better understanding of the forces that have made us what we are. (p. 170)

Social Learning Theory

Social learning theory has as a basic premise the concept that behavior results from the relationship between the environment and the individual. Bandura (1977a) states:

> ...behavior, other personal factors, and environmental factors all operate as interlocking determinants of each other.... The relative influences exerted by these interdependent factors differ in various settings and for different behaviors. There are times when environmental factors exercise powerful constraints on behavior, and other times when personal factors are the overriding regulators of the course of environmental exents. (p. 10)

He further states that from the social learning perspective "... human nature is characterized as a vast potential that can be fashioned by direct and vicarious experience into a variety of forms within biological limits" (p. 13).

According to Bandura (1973) people solve problems within their minds and can foresee the probable consequences of different choices. They can choose different actions as a result of this cognitive process. People can, to some extent, control their behavior. "Man is neither driven by inner forces nor buffeted helplessly by environmental influences" (Bandura, 1973, p. 43). "Behavior comes to be regulated by antecedent stimulus events that convey information about probable consequences of certain actions in given situations" (Bandura, 1969, p. 19).

Bandura (1977b) states:

> ...outcome and efficacy expectations are differentiated, because individuals can believe that a particular course of action will produce certain outcomes, but if they entertain serious doubts about whether they can perform the necessary activities such information does not influence their behavior. (p. 193)

Social learning theory, as defined by Rotter, has its antecedents in the force-field theory of Kurt Lewin, Alfred Adler's emphasis on man's striving for perfection, and the learning theorists Clark Hull, E. L. Thorndike, E. C. Tolman, and J. R. Kantor (Rotter 1982, p. 2). It is a molar theory that attempts to integrate the stimulus-response or reinforcement theories with the cognitive or field theories (Rotter, 1975, p. 57). It includes "...both behavioral ... and internal or subjective constructs..." (Rotter, 1982, p. 2), and involves "... both a process theory (... a theory of acquisition and change of related, relative stable, personality characteristics) and a content theory - a descriptive schema of individual differences" (Rotter, 1982, p. 3).

> Social learning theory is a psychological theory: It begins with unlearned responses but does not attempt to delineate the antecedents of such unlearned responses. Although it is concerned with acquisition of new behavior or modified unlearned responses, it explains such behavior at a molar level. New responses occur as unlearned or previously learned responses, and are modified or combined into more refined or more complex behavior, a process speeded up by direct reinforcement or expected reinforcement through imitation. (Rotter, 1982, p. 3)

Rotter (1982) states social learning theory

> ... is focused on personality and personality change... The motive for developing the theory was... the desire to be able to predict and change the behavior of individuals more efficiently... Its main emphasis has been to 1) develop an adequate process theory to explain how people learn or acquire their characteristic behaviors and attitudes; 2) predict behavior choice by the individual in a given situation; 3) deve-

> lop a reliable efficient descriptive language, intergrated with process theory, to delineate individual differences in behavior in the same or similar situations; and 4) understand how and under what conditions such attitudes and behaviors change. (Rotter, 1982, p 4)

According to Rotter (1982) the name, social learning theory, comes from the fact that reinforcement is not viewed as directly related to physiological drives or drive reduction, and that human behavior is primarily determined by social reinforcement, or the behavior of other humans (pp. 3-4).

Rotter (1975) identified four classes of variables as the major components of social learning theory, i.e. behaviors, expectancies, reinforcements, and psychological situations (p. 57). He states:

> In its most basic form, the general formula for behavior is that the potential for a behavior to occur in any specific psychological situation is a function of the expectancy that the behavior will lead to a particular reinforcement in that situation and the value of that reinforcement. (Rotter, 1975, p. 57)

Some of the basic assumptions of social learning theory are (a) the basic unit of study is the interaction of the individual in his environment which is based on the view that learned or modified behavior comprises most of human social behavior; (b) with experience the individual's personality becomes increasingly more stable with previous experiences and conceptualizations influencing the selection of new experiences as well as the individual's

interpretation of reality; (c) behavior is goal directed in an attempt to obtain reinforcement with new goals obtaining their importance from association with earlier goals; and (d) behavior results from the individual's expectancy, based on his prior experiences, that the goals will be achieved. The theory stresses that an assumption of the concept of anticipation of a valued reinforcement is necessary to account for human behavior (Rotter, 1982, p. 4-10).

Rotter (1975) indicates that when an individual perceives two situations as similar, his expectancies for a reinforcement, either of a particular reinforcement or a class of reinforcements, will become generalized. These generalized expectancies are important personality characteristics, and measurement of them allows broad predictions from limited data. These predictions can be made about a large number of different situations but only at a low level of predictability. This type of broad measurement is important in that it can be used to examine a large variety of problems without the development of specific instruments for every purpose (Rotter, 1975, pp. 57-59).

Measurement of these generalized expectancies by use of the Rotter I-E scale is one method of measuring this personality characteristic. This scale measures an individual's generalized beliefs about the nature of his world, or generalized expectancy for reinforcement even though there are no items that specifically address a preference

for internal or external control. Rotter's I-E scale is designed to be an easily administered instrument that measures these generalized expectancies. (Rotter, 1966, 1975).

As a conclusion about social learning theory, Rotter (1982) states:

> What we have contributed to the study of content of personality is not a new taxonomy of traits, or a new taxonomy of situations, or a new topology of people, but rather classes of content variables all of which are integrated with the.... process theory, which provides leads to their development and change. We have provided a method of analyzing problems but not a series of answers. (p. 331)

Locus of Control

Rotter (1975) noted the interest in development of the concept of internal-external locus of control as a generalized expectancy of reinforcement resulted from observations that "... increments and decrements in expectancies following reinforcement appear to vary systematically, depending on the nature of the situation and also as a consistent characteristic of the particular person who was being reinforced" (p. 56).

In 1954 Rotter commented that expectancy is 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" (p. 107). Locus of control has been described as a personality

characteristic that indicates the generalized expectancy, operating across a wide variety of situations, of an individual's perception of control of reinforcements associated with behaviors. This expectancy of reinforcement is perceived differently by different individuals in the same or similar situations. Those persons who perceive they have little or no control over their environment and are subject to the actions of powerful others, fate, chance, or unpredictable events have been labeled as externals. Those individuals who believe that their actions have a significant effect on what happens to them are called internals. (Joe, 1971; Lefcourt, 1966a, 1966b; Rotter, 1966, 1971, 1975.)

Rotter (1966) states that a basic aspect of the concept is

> ...if a person perceives a reinforcement as contingent upon his own behavior, then the occurence of either a positive or negative reinforcement will strengthen or weaken potential for that behavior to occur in the same or similar situations. If he sees the reinforcement as being outside of his own control or not contingent, that is depending upon chance, fate, powerful others, or unpredictable, then the preceeding behavior is less likely to be strengthened or weakened. (p. 5)

Individuals who are primarily internal, as compared to externals, are more alert to the factors in the environment that are useful in future behavior, make efforts to improve his/her environmental conditions, value skill or achievement reinforcement, are particularly concerned with

and tend to forget failures, and resist subtle attempts to control his/her behavior. In contrast externals have lower expectations for reinforcements following success but also are less likely to lower expectations after failures, and they tend not to generalize their experiences of success and failures or expectancies of future reinforcements (Rotter, 1966).

In further elaboration on the characteristics of individuals Rotter (1971) noted that some of those labeled as externals may be suspicious of authorities when they feel they are being manipulated, and this external belief may be a defense against failures that they expect to occur. He suggested that the tendency for externals not to forget failures may be because they have "... less need to repress past failures because they have already resigned themselves to the defensive position that failures are not their responsibility" (Rotter, 1975, p. 59).

Rotter emphasized that "internal versus external control of reinforcement appears to be a basic generalized expectancy that may have effects on a great variety of behaviors" (Rotter, 1982, p. 328). Lefcourt (1982) concluded the concept of locus of control can be useful if one remembers (a) the value of the reinforcement and the expectancy of the ability to obtain a desired goal is as important as is perceived control; (b) the perception of control only depicts an individual's tendency to affix causation as

being either internal or external, with a recognition that individuals are not totally internal or totally external; (c) if one desires to have a measurement tool that is highly predictive then a specific instrument must be constructed for the particular situation; and (d) the term "control" is problematic in that it implies successful manipulation while the locus of control concept indicates the perceived cause of events may have both positive and negative results (pp. 186-187).

Many studies have been conducted on the concept of locus of control but in comparison to the exploration of other populations studies of the locus of control of older persons has been limited. No studies have been conducted to determine the relationship of locus of control and participation by older adults in higher education. Some studies do, however, provide data about the locus of control of older adults, and several studies have been conducted using the Rotter I-E scale to measure generalized expectancy for reinforcements.

Gerrard, Reznikoff, and Riklan (1982) studied the relationship of life satisfaction and locus of control to level of aspiration in two groups of older persons. "The results... demonstrated that a positive level of aspiration is related to a more internal locus of control.... Individuals who are more optimistic and self-confident... may

be more likely to try to influence their environment and will... have a greater probability of experiencing reinforcement which is contingent on personal behavior" (p. 121).

Wolk and Kurtz (1975) found "... internal elderly individuals manifested higher levels of involvement, more adaptive levels of developmental task accomplishment, and more positive emotional balance in their satisfaction with life" (p. 176). They noted, that compared with younger individuals, the elderly had "... an exceptionally internal level of locus of control..." (p. 173), and elderly external females had the lowest level of adjustment.

Staats (1974) found internal locus of control increases with age, and males had a tendency to be more internal than females in the 46-60 age group.

A number of studies of locus of control have been done using various other scales. Ziegler and Reid (1983), using the Desired Control Scale, studied elderly residents of a retirement center, average age 78 years, over a one and one half year span of time. The results confirmed the relationship between a desired control and a sense of well-being. "Apparently, the greater the sense of control, the greater the satisfaction in one's life,... the fewer the disruptive life changes, and the healthier one feels" (Ziegler & Reid, 1983, p. 143).

In a group of elementary and secondary school teachers, age 20 to 65, Knopp (1981), using an abbreviated Rotter I-E Scale, found internality increased with age, and internal subjects were more satisfied and involved, and less alienated than externals.

Reid, Haas, and Hawkins (1977) developed a scale to measure locus of control. They noted there was a significant relationship between a low sense of control and a negative self concept with the relationship being higher for males which suggests "...having a sense of control is more relevant to a man's adjustment and that this relationship is amplified in institutional settings where it is likely that fewer avenues of personal control are available" (p. 440).

Wolk (1976) studied situational constraints as they affect the relationship between adjustment and generalized expectancy for control. Results indicated the "... internal elderly individual responds to his environment similarly to his counterpart in much younger populations: active involvement, adjustive behavior, expressive satisfaction, and a positive self concept..." (p. 425). He indicated that "the data suggests that the developmental processes of aging do not necessarily lead to a reduction in the expectancy of internal control" (p. 426). The scale used to measure locus of control was developed by Nowick and Duke.

Using the Locus of Control Inventory Form Three Achievement Domains, Bradley and Webb (1976) found persons over age 60 scored more external than adults in the 35-50 age range. In their discussion they state:

> ...persons who have always felt responsible for their fate may find the new realities of diminished control much more damaging to self-evaluation than those persons who have always felt more a victim of circumstances.... while certain old persons may admit that they no longer have the power to control many outcomes... they may nonetheless experience shame and frustration due to long held beliefs about themselves as being internally-oriented.... For the elderly with internally oriented personalities, a renewed productive role would help bring orientation back into line... thus allowing for the maintenance of a sense of pride as they approach the end of their lives. (p. 53-54)

Ryckman and Malikiso (1975) found, using the Levenson's I-E Scale, there was no decline in internality in older persons. They state "... the elderly... believe they have control over outcomes in virtually every sphere of their lives" (p. 657). They concluded that "one may question the negative sterotypes of the elderly as 'dottering old codgers' who spend much of their time in rocking chairs reliving the past and waiting passively and helplessly for death" (p. 657).

Duke, Shaheen, and Nowichi (1974) compared middle age adults with elderly adults and predicted, on the basis of social learning theory, that as people become aged "...the degree to which they can control what happens to them diminishes, and ... one would expect ... that locus of

control ... would be significantly more external than among younger age groups" (p. 278). This study, using the Adult Nowicki-Strickland Locus of Control Scale, did not confirm this prediction. Findings indicated the older group was no more external than the middle age group.

Using the Rotter I-E scale, but with a reduced number of questions, Kuyper (1972) noted that elderly persons who were identified as internals had "... greater activity, differentation, complexity, and adaptability" (p. 172). Externals "... appear closed, defensive, externalizing, and non-adaptive in their mode of interaction with their environment" (p. 172). Internals and externals did not significantly differ in relation to age, sex, marital status, or economic strain but there was a non-significant trend related to differences related to educational level (p. 171). He concluded "... internals are more able to know their environment, have more complex-differentiated equipment to relate to it, are more in touch with the flow between past, present, and future, and stand less fearfully up to change" (Kuyper, 1972, p. 172).

Palmore and Luikart (1972) found in a group of subjects age 45 to 69, "... the amount of organizational activity and belief in internal control were the second and third most important variables related to life satisfaction" (p. 68). They indicated those individuals who be-

lieve that they tend to control their life have greater life satisfaction. It was found men had a tendency to have more internal control orientation than did the women subjects. Jessor Scale was used in this study to measure the internal-external control of reinforcement.

Brown (1983) developed an I-E scale based on Levenson's suggestions, and found, in a group of women graduate students, those individuals who were more internal had higher need for individual achievement while externals had a more traditional sex role orientation.

One study was reviewed which compared the relationship between locus of control and voluntary participation in informal adult educational programs. Falconer (1974) studied 57 female and 37 male subjects with a Mean age of 44.5, 29 of whom were over age 55. The Mean level of formal education completed was graduation from high school, although 34 of the subjects had not completed high school. Subjects were not chosen at random and the methodology specified that the groups would contain substantial numbers of individuals who had low participation in voluntary educational activities, lower socio-economic status, low level of formal education, minority membership, and included rural as well as urban subjects. Participation was determined by the score on the Leisure Activity Survey developed by Litchfield and Locus of Control by the score on the Rotter I-E Scales. He concluded that "No significant

relationships were established between general locus of control (I-E Scale) and ...participation in learning activities....people who appear to be controlled by external factors do not participate more or less in learning activities than persons who appear to be controlled by internal factors" (p. 96).

Rotter (1975)noted there is a tendency to assume there is a value orientation associated with being more internal than external in orientation. He indicates this position presents difficulties and points out that in some situations it may be desirable to be external as in situations where people are dealing with failing abilities.

As a final point Kuypers (1972) stated that locus of control

> ...is an orientation or personal attribute (attitude, set, expectancy) which provides a context against which phenomena are experienced and by which choice and action are guided... It points to the general statement that persons who believe that they can be masters of their fate (in a limited sense of the word) are able to take action which achieves greater self enhancement. (p. 170)

CAI and COR Models of Adult Learning

Two models have been developed by K. Patricia Cross (1981) as a framework for understanding adults as learners. The Chain of Response (COR) was developed to explain who participates and why they participate. The Characteristic of Adult Learners (CAL) was designed to provide a framework

to explain what and how adults learn (Cross, 1981, p. 247-248).

The CAI model attempts "... to elucidate differences between adults and children as learners and ultimately to suggest how teaching adults should differ from teaching children..." (Cross, 1981, p. 234). CAL describes learners by their personal and situational characteristics. Each of the personal characteristics can be illustrated as having a different shape. Physiological changes/aging shows an upward curve until about age 20, a slow decline to about 60, and steady decline after that point. For the adult educator this pattern is not something that can be changed but it can be accomodated for in the learning environment.

In the area of sociocultural/life phases the pattern is seen as horizontal. It is viewed as a series of steps separated by periods of transition, and is closely associated with chronological age. The adult educator's role is adaptive and adjustive with capitalization on the transition points as these are the periods of greatest need and receptivity on the part of the learner.

Psychological/developmental stage is viewed as tending upward and is not necessarily related to chronological age. This stage is seen as a trend toward greater growth and maturity with the role of the educator being to help the learner to achieve his greatest potential.

Situational characteristics differentiate adult learners more sharply than the other varibles. Adults usually have a primary commitment to work and family and have a secondary commitment to learning. More often than not they are part-time students. Most adult learning is voluntary but adults may participate because of direct or indirect coercion; not in the sense that a child is compelled to participate because the personal characteristics of the learner are still important variables in how and why adults learn (Cross, 1981, p. 235-242).

Cross (1981) states the implications of the CAL model:

> ...does seem to have the...advantage of incorporating the major existing theories of adult learning (andragogy and developmental stages and phase theory) into a common framework, and it does provide a mechanism for thinking about a growing, developing human being in the context of the special situations common to part-time volunteer learners. (p. 243)

The COR model "... represents the rough beginnings of a conceptual framework designed to identify the relevant variables and hypothesize their relationships" (Cross, 1981, p. 124), which are associated with explaining adult participation in learning activities. Participation is not the result of a single act but rather a chain of response based upon the place of the individual in his or her environment. Cross (1981) states, "the continuum...indicates the forces for participation... begin with the individual and move to increasing external conditions - although... in

any interaction situation, forces flow in both directions" (p. 125).

Self-evaluation is the point where the chain of responses leading to participation begins. Personal characteristics which are relatively stable are important factors in the motivation to learn. A person who lacks self confidence is not likely to volunteer to participate in a learning situation which might be threatening to personal self esteem.

This theory indicates that attitudes about education are derived from the experiences of the individual in learning activities, from vicarious incorporation of the experiences of friends and significant others, and the attitudes of reference and membership groups. A linkage of the self-evaluation of the learner with his attitudes about education will give a relatively stable view of his probability for participation in learning experiences.

Importance of goals and expectations that participation will meet goals is the next factor. If the person perceives the goal as important and something that can be achieved through education he may be strongly motivated to participate. If the goal is not very important or he is not sure of success in accomplishing the goal then his motivation to participate decreases.

Other variables include transition points in the life of the individual, opportunities and barriers to participa-

tion, and availability of information. Transition points are closely related to developmental phases in the life cycle of the individual and may influence the degree of interest in participation. If there is a desire to participate the individual may seek out opportunities and overcome barriers but if the motivation is not strong those barriers may become obstacles that may prevent participation. Information is critical in linking learners with opportunities to overcome barriers to participation (Cross, 1981, p. 124-128).

Cross (1981) states, "The purpose of a theoretical model as broad as the COR model is not so much to explain and predict adult participation at this stage in the development of knowledge, as it is to organize thinking and research" (p. 131).

In summary, a review of the literature indicates an increasing interest in the study of older adults. The increased number of persons in this age group, and a decrease of individuals in the traditional college age group, has created an enhanced interest in this group as potential students in programs of higher education. Continuity and activity theories of aging support participation in these programs by the aged.

Social learning theory attempts to explain behavior as a relationship between the environment and the individual.

The personality becomes increasingly more stable, and previous experiences and conceptualizations influence the selection of new experiences. In this perspective behavior occurs as a result of the individual's expectancy that goals will be achieved. This expectancy becomes generalized through social experiences, can be measured, and allows a broad prediction of behavior from limited data.

The chain of response model of adult learning attempts to provide a framework to explain who participates and why they participate. It is within this framework that locus of control, as a personality characteristic, can be studied as a possible descriptor of the potential for participation in programs in higher education.

CHAPTER III

Method

Problem Statement

Is there a significant difference in the locus of control, as measured by the Rotter I-E Scale, between groups of individuals age 55 to 70 who were and were not participating in an organized educational program in higher education?

Subjects

Participant group subjects were students, age 55 to 70, who were at the time of this study enrolled in a large midwest university in classes for which they might have been given academic credits upon completion of the courses.

Non-participants, the comparison group, were randomly selected employees and retired employees of a large public university in a midwestern state who are age 55 to 70, who have completed high school or high school equivalency as measured by the General Educational Developmental Test, and who were not at the time of this study participating in a course for which they could have been given academic credit.

Welfare of Subjects

Subjects were informed in writing that all data would be reported as group data, and they were assured that they would not be identified as individuals. They were notified that return of the questionnaire and demographic sheet constitutes an informed consent for use of the data.

Instrument

Rotter I-E Scale is a 29 question forced-choice questionnaire of which six items are "fillers" resulting in a potential cumulative score of zero to 23 when these "filler" questions are eliminated. This scale was designed to measure a broad ranged expectancy for reinforcement by use of an easily administered instrument with a low correlation with a social desirability scale. This scale measures the individual's belief about how reinforcement is controlled and is thus a measure of generalized expectancy. (Rotter I-E scale appears in Appendix C).

Correlation with the Marlowe-Crowne Social Scale was -.07 to -.35. Internal consistency using the split half method resulted in a reliability of .65; using Spearman-Brown reliability was .79; and Kuder-Richardson reliabilities ranged from .69 to .73. Test-retest reliabilities varied between .49 and .83. Means for male college students ranged from 7.71 with standard deviation (SD) of 3.84 to 8.72 with SD of 3.59. Female college students ranged

from 8.42 with Standard Deviation of 4.06 to 9.62 with Standard Deviation of 4.07. (Rotter, 1982, p. 189-193, 210; Rotter, 1966; Rotter, Chance, & Phares, 1972, 267-280; Rotter, 1975).

Data Collection

This study follows an ex post facto design with 8 cells, allowing a comparison to be made between the reported locus of control beliefs of the two groups of subjects as measured by the Rotter I-E scale. Subjects participated in the study on a volunteer basis, therefore there may be differences in the reasons for participation in the study that were not controlled.

A packet was mailed to each subject through their usual mail delivery system. It contained a request for voluntary participation in the study, (Appendix A), a questionnaire for collection of demographic information, (Appendix B), a copy of the Rotter I-E Scale with instructions for completion, (Appendix C), and a self-addressed stamped envelope which was numbered for monitoring purposes.

Two weeks following the mailing of the packets, data collection was considered complete.

Analysis of Data

Returned data was collected for a period of two weeks and responses on Rotter I-E Scale were scored to ascertain

the degree of externality of each subject.

Data was analyzed by use of the Statistical Analysis System (SAS) through the Academic User Services, University Computing Services of the University of Oklahoma, Norman, Oklahoma.

Chi square values were obtained to ascertain the degree of similarities between the two groups related to age, sex and educational level.

Chi square value was obtained related to the relationship between the Participant and the Non-participant group and between internal and external locus of control scores.

One way Analysis of Variances were calculated to determine the F values between the two groups on the several combinations of variables of (a) group to group, (b) age group 55-59 to 60-69, (c) males to females, and (d) educational level I to educational level II. Two way Analysis of Variances were calculated to find the F value of the relationship between the Participant and the Non-participant groups related to age and gender.

As a comparison between this study and another study involving older adults (Wolk and Kurtz, 1975) a t-test was done to find the t value of this relationship.

Level of significant differences was established at an alpha level of .05.

CHAPTER IV

RESULTS

Introductory Statement

The purpose of this study was to examine the locus of control of individuals age 55 to 70 who were and were not participating in organized educational programs in higher education in order to identify significant relationships that might exist between locus of control and participation or lack of participation in this type of educational activity.

Identification of subjects who were participating in educational programs in higher education, the Participant group, was available through their registration process and the computer system of the institution. Identification of a comparison group of older adults, Non-participant group, was achieved through selection of the University community of older adults who were either employed or retired from that institution. A list of these individuals was also available through the institution's computer system. High school completion or equivalency was established as a criterion to assure that all subjects could have met the requirement for participation in courses in higher education based upon educational attainment level.

Comparison of Groups

Of the 247 questionnaires sent to subjects in both groups, 118 usable protocols were returned.

TABLE 1

Percent of Usable Protocols Returned

	Female	Male	Total
Non-Participant Group (older adults, not participating in courses for academic credit)	n37 54%	n28 35%	n65 43%
Participant Group (older adults participating in courses for academic credit)	n35 58%	n18 49%	n53 55%

Kerlinger (1964) indicates that mailed questionnaires have the advantage of fostering honesty and frankness of responses, and can be economically administered to large numbers of subjects. However, questionnaires present the problems of inability to varify the responses and lack of information regarding the reasons for lack of response. He notes that the researcher may have to accept returns as low as 50 or 60 percent (p. 486, 414). In this study Table 1 indicates that females returned usable protocols within this range but the male respondent rate was lower.

TABLE 2

Comparison of Groups by Gender

	Female	Male	Total
Non-participant Group (older adults not partipating in courses for academic credit)	n37 56.92%	n28 43.08%	n65 55.08%
Participant Group (older adults participating in courses for academic credit)	n35 66.04%	n18 33.96%	n53 44.52%
TOTAL	n72 61.02%	n48 38.98%	N 118 100.00%

χ^2 (df = 1, $\underline{N}$ = 118) = 1.02, $\underline{p}$ = .3126

Table 2 depicts the chi square value as a comparison of these two groups related to gender and indicates no significant difference in the two groups. They are roughly equivalent in terms of numbers of males and females.

TABLE 3

Comparison of Groups by Age Categories

	Non Participant Group (older adults not participating in courses for academic credit)	Participant Group (older adults participating in courses for academic credit)	Total
Age group 55-59	n32 45.07%	n39 54.93	n71 60.17%
Age group 60-69	n33 70.21%	n14 29.79%	n47 39.83%
TOTAL	n65 55.08%	n53 44.92%	N118 100.00%

χ^2 (df = 1, $\underline{N}$ = 118) = 7.225, $\underline{p}$ = .0072

Table 3 depicts the chi square value as a comparison of these two groups related to age categories and indicates that the groups are significantly different which means they are not comparable groups based on age categories.

TABLE 4

Comparison of Groups by Educational Levels

	Non Participant Group (Older adults not participating in courses for academic credit)	Participant Group (Older adults participating in courses for academic credit)	Total
Educational Level I	n22 75.86%	n7 24.14%	n29 24.58%
Educational Level II	n43 48.31%	n45 51.65%	n89 75.42%
TOTAL	n65 55.08%	n53 44.92%	N118 100.00%

χ^2 (df = 1, $\underline{N}$ = 118) = 6.709, $\underline{p}$ = .0096

Table 4 depicts the chi square value as a comparison of these two groups related to educational level and indicates that the groups are significantly different which means they are not a comparable group based on educational level.

TABLE 5

Distribution of Internal-External Scores

	Total of Non-Participant and Participant Groups	Non-Participant Group (older adults not participating in courses for academic credit)	Participant Group (older adults participating in courses for academic credit)
Score 12 or above	15 (12.7%)	11 (16.9%)	4 (7.5%)
Score below 12	103 (87.3%)	54 (83.1%)	49 (92.4%)
Score 9 or below	84 (71.2%)	46 (70.8%)	36 (67.8%)

In the Rotter I-E scale more than 85 percent of the subjects had scores below 12, indicating internal locus of control. (See Table 5)

TABLE 6

Locus of Control
Means and Standard Deviation of Groups by
Group, Gender, Age and Educational Level

	I-E Scores					
	Total Subjects		Non Participant Group (older adults not participating in courses for academic credit)		Participant Group (older adults participating in courses for academic credit)	
	$\bar{X}$	SD	$\bar{X}$	SD	$\bar{X}$	SD
Groups	7.02	3.83	6.85	4.14	7.22	3.45
Females	7.72	3.88	7.73	4.18	7.71	3.59
Males	5.91	3.53	5.68	3.85	6.28	3.04
Age 55-59	7.01	3.67	6.28	4.00	7.61	3.30
Age 60-69	7.02	4.11	7.39	4.26	6.14	3.76
Educational Level I	7.41	3.78	7.54	3.73	7.25	3.90
Educational Level II	6.56	3.88	6.03	4.49	7.20	2.94

A comparison between the two groups indicates the Mean I-E score for males in both groups is lower than the Mean I-E score for females and subjects reporting Educational Level II have a lower Mean I-E score. Subjects in the Non-participant group in the age 55-59 group have a lower I-E Mean score than those in age 60-69 while the

opposite is indicated in the Participant group with those in age 60-69 having a lower Mean score than the age 55-59 group.

A t-test was done to compare the mean I-E scores of males with females. Non-participant males, as a group, are significantly more internal than non-participant females, as a group, at the .05 alpha level, t = 2.05 (t crit. = 2.00, p. 05). Males, as a group, were significantly more internal than females, as a group, in the Participant group, t = 5.296 (t crit. = 2.021, p. 05).

There are no significant differences in locus of control between age groups for the Non-participant group, t = 1.03 (t crit. = 2, p .05), and the Participant group, t = 1.387 (t crit. = 2.021, p .05). There are no significant differences in locus of control related to educational levels of the Non-participant group, t = .0521 (t crit. = 2.021 p .05).

The demographic data indicates that the two groups are comparable in relation to gender but not in relation to age or educational level (See tables 2, 3, and 4). The Non-participant group had more subjects (51 percent) in the older age group than did the Participant group (26 percent). If individuals become more "internal" as they become older as indicated by the studies done by Penk (1969) and Staats (1974), then this difference in these groups would have been an important factor associated with the reason

for no significant differences between the two groups related to locus of control and participation in higher education. To explore this factor a comparison was made between the two groups in the younger age group related to locus of control scores which also resulted in no significant differences, t = 1.53 (t crit. = 2, p .05).

Subjects are not comparable in their level of educational attainment. The Non-participant Group had fewer subjects in Educational Level II (66 percent) than did the Participant group (87 percent); however, both groups had more than 65 percent of the subjects who reported Educational Level II. This can be compared to national averages for 1979 of 11 percent who have completed college and 60 percent who had completed high school in age 55 to 64, and 9 percent college graduates and 44 percent high school graduates in the 64-74 age group. (U. S. Population Reports, June 1981b)

The Non-participant and Participant groups both have a much higher level of educational attainment than the national average. A comparison between the Non-participant group and the Participant group related to Educational Level I attainment and locus of control scores resulted in no significant differences between these groups, t = .178 (t crit. = 2.056, p .05).

Hypotheses

Hypothesis$_1$: There will be no significant difference in the locus of control between groups of individuals age 55 to 70 who are and who are not participating in organized programs in higher education.

The Mean locus of control scores and standard deviations are reported in Table 6. A one way Analysis of Variance comparing the two groups resulted in F = .29, $P > F$ =.5942.

TABLE 7

Comparison of External-Internal Classification by Group

	Non-participant Group (older adults not participating in courses for academic credit)	Participant Group (older adults participating in courses for academic credit)	Total
External	n11 73.3 %	n4 26.67%	n15 12.7 %
Internal	n54 52.43%	n49 45.57%	n103 87.28%
TOTAL	n65 55.08%	n53 44.91%	N118 100.00%

X^2 (df = 1, N = 118) = 2.396, p = .1216

A Chi Square comparison of the two groups related to classifications, Internal and External on the Rotter I-E scale indicated a non-significant difference between the

two groups.

Results indicate that the hypothesis is not rejected at the .05 level of significance.

Hypothesis$_2$: There will be no significant differences in the locus of control related to gender between groups of individuals age 55 to 70 who are and are not participating in organized programs in higher education.

Locus of control mean scores and standard deviations are reported in Table 6.

A one way Analysis of Variance by sex for the total group indicates $F = 6.55$, $p > F = .0118$ and a two way Analysis of Variance by sex and participation results in $F = .18$, $p > F = .6717$.

There are significant differences between the group of males and the group of females in the total group of subjects related to scores on the Rotter I-E Scale but there are no significant differences between the two groups thus the hypothesis is not rejected.

Hypothesis$_3$: There will be no significant difference in the locus of control between groups of individuals age 55-59 and age 60-69 who are and who are not participating in organized programs in higher education.

Locus of control mean scores and standard deviations are reported in Table 6.

A one way Analysis of Variance by age for the total group of subjects indicates $F = .00$, $p > F = .9921$. A two way Analysis of Variance by age and participation indicates $F = 2.87$, $p > F = .3698$.

Results indicate that the hypothesis is not rejected at the .05 level of significance. It should be noted that this hypothesis could be rejected at the .1 alpha level.

A further comparison of the total group on educational levels by a one way Analysis of Variance resulted in $F = 1.45$, $p > F = .21317$. Locus of control mean scores and standard deviations are reported in Table 6. These results indicate there is no significant difference related to educational levels.

Since there are significant demographic differences between these two groups a further comparison was made with a study reported by Wolk and Kurtz (1975). Subjects were non-institutionalized older males and females ages 60 to 85 with a Median age of 68. Participation or lack of participation in programs in higher education was not identified. The Rotter I-E scale Mean score reported in this study was 8.22 with a Standard Deviation of 4.32. A comparison of this group with the Non-participant group using a t-test indicated $t = 1.99$ (t crit. = 1.96, p .05) or a significant difference between the two groups at .05 alpha level. Comparison with the Participant group resulted in t

= 1.43 (t crit. = 1.96, p .05) which was not significant at the .05 alpha level. Using this group instead of the Non-participant group as a comparison group with the Participant group the first hypothosis is not rejected at alpha level of .05.

Power of the Study

Power of the study with 65 subjects in the Non-participant group and 53 subjects in the Participant group with an average Standard Deviation of 3.795 indicates there is approximately a 95 percent chance of identification of a difference of a score of one point on the group Mean on the Rotter I-E scale.

CHAPTER V

DISCUSSION

Conclusions

In this study locus of control was found not to be a personality characteristic that was significantly different between the two groups, or between the study reported by Wolk and Kurtz (1975) and the participant group. It is therefore not a descriptor that could be useful in identification of the personality characteristics of participants and non-participants in programs in higher education in comparable situations. In a similar study, Falconner (1974) found that locus of control was not a predictor of participation in adult education as measured by the Leisure Activity Survey developed by Litchfield and the Rotter I-E Scale for measurement of locus of control.

Implications

It is important to note that 87 percent of both groups scored below 12 on the Rotter I-E scale and 71 percent scored 9 or below. In the Participant Group 92 percent scored below 12 and 68 percent scored 9 or below. Although locus of control may not be a descriptor of differences in personality characteristics between those who do and do not participate in programs of higher education,

it may have implications for program development. Rotter (1966), Lefcourt (1966a, 1966b, 1982, p. 50 and p. 97), Joe (1971), and Kuypers (1972) have described those individuals with an internal locus of control as being more alert to the factors in their environment that may be useful in future behavior; as placing value on skill and achievement reinforcement, as being particularly concerned with failures; as having a tendency to forget failures; as being resistive to subtle attempts to control their behavior; as being goal directed; as exhibiting greater efforts to control the directions of their own lives; as having a greater tendency to seek information; as spending time in intellectual activities; as exhibiting more intense interest in academic pursuits; as having a tendency to be more cautious and conservative in risk-taking; as being resistive to being placed in the position of being "put down" by the assumed expertise of others; and as having the ability to defer gratification of goals.

If these factors are valid indicators of the characteristics of those individuals who are identified as "Internals" then educational programs offered to them may be more successful if program planning includes consideration of these expected behaviors. Incorporation of the participants in goal setting and presentations of subject matter would seem appropriate. Recognizing the need for

reinforcement of achievement and skills might be emphasized. Open and direct communication would seem to be necessary, and a clear understanding of expectations and requirement would be important to those students. These same factors have frequently been referred to by adult educators as important consideration in program planning for adults.

Joe (1966) noted that there appears to be differences among males and females regarding their generalized expectancies of reinforcement but "such differences may be related to the cultural roles assigned to each sex, to social class, and to regional effects. (p. 634)." In the current study there is a significant difference in the locus of control of this group of males and females in the total number of subjects with males being more internal than females but it is noted that both groups are very internal in the expectancies of reinforcement therefore the difference does not seem to be important.

Limitations

It is perceived in social learning theory that individuals respond to situations based upon their generalized expectancies for reinforcement derived from social learning experiences. These differ from individual to individual in different situations. It can be expected that groups of individuals in different situations and age cohorts will

also differ. It can not be implied that future groups of older adults will have the same beliefs in internal or external control as the current population.

Participant group subjects are individuals who are currently enrolled during a regular semester for credit and may not be comparable to those individuals who participate during summer sessions or as auditing students. Participation or lack of participation for the subjects in the Non-participant group was identified for the time of the study only and did not include past participation activities. Factors related to motivation for participation or lack of participation were not explored in this study.

Locus of control is considered a descriptor of a personality characteristic and no cause or effect relationship can be inferred regarding this characteristic and specific behaviors except from a broad perspective concerning the generalized expectancies of re-inforcement and beliefs about the nature of the world that are perceived by individuals.

Results of this study may be generalized to adult learners who participate in programs in higher education but care must be taken to ensure that the groups are similar in nature to those in this study.

A higher percentage of females than males returned usable protocols, therefore, caution must be used in generalizing the results because of this factor.

Recommendations

Considering what is now known about the characteristics of the I-E scores of older adults who are and who are not participating in programs in higher education, replication of the study is not recommended unless there are indications that differences could be expected in the generalized expectancy for reinforcement. Changes in the characteristics of the population as a result of social learning experiences may indicate a need for future studies.

Perhaps modification of the instrument or development of a new instrument would more precisely measure this personality characteristic and its relationship to participation in programs in higher education.

Houle (1961) states: "Some men and women seek the rewards of knowledge - and do so to a marked degree.... The desire to learn seems... to pervade their existence. They approach life with an air of openness and an inquiring mind" (p. 3).

Identification of those individuals and ascertainment of ways to assist them in their endeavors seems to be a worthy effort for future research.

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APPENDIX A

April 2, 1984

212 Wadsack
Norman, OK 73069

Dear Sir/Madam:

This letter is sent to you with the hope that you will be willing to assist me in my efforts as a graduate student at the University of Oklahoma working under the direction of Dr. Lloyd Korhonen and an advisory committee. After having worked for many years, I have now returned to school in an attempt to achieve a long term goal and your help is very important to my completion of this goal.

Enclosed in this letter is a questionnaire that I would appreciate your completing and returning to me in the enclosed envelope. Please be assured that by returning this information for use in a study of factors associated with participation in programs in higher education you will not be identified in any way as an individual.

Please take a few minutes to complete this questionnaire! Your help will be appreciated!

Barbara Drobnies
Ph.D. Candidate
University of Oklahoma

APPENDIX B

General Information

Age: 55-59_____ 60-64_____

65-69_____ Over 69_____

Gender: Male _____ Female _____

Educational Level:

Highest grade completed _____

If granted a degree, what degree?_____

Are you currently enrolled in any college course for which you may be given college credit?

Yes_____ No_____

APPENDIX C

QUESTIONNAIRE

Instructions

These questions are intended to find out the way certain important events that happen in our society affect different people. Each answer has two choices, an (A) or (B). Please circle the one (and only one) answer that you believe to be the case as far as you are concerned. There is no right or wrong answer so please circle the one you actually believe and not the one you think you should choose or would like to be true.

Please answer the questions carefully but do not spend too much time on any one answer. If you find both statements, or neither statement, to be what you believe select the one you more strongly believe to be the case as far as you are concerned.

Try not to let your answer to previous questions influence your answer to other questions, and please answer every question!

I-E SCALE

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 don't 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 don't 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 don't like you.

   b. People who can't get others to like them don't 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 they're 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 definie 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 a 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 the 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 don't 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 three.

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 can't 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 don't try to be friendly.

    b. There's 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 don't have enough control over the direction my life is taking.

29. a. Most of the time I can't 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.

(Rotter, Chance and Phares 1972, pp. 272-275, 295)