

A DESCRIPTIVE STUDY OF AN URBAN  
CLUSTER'S EDUCATION PARTICIPATION  
PROFILE-LOGAN COUNTY

By

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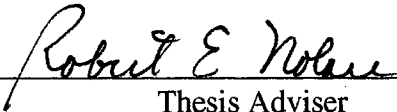
Submitted to the Faculty of the  
Graduate College of the  
Oklahoma State University  
in partial fulfillment of  
the requirements for  
the Degree of  
DOCTOR OF EDUCATION  
May, 2004

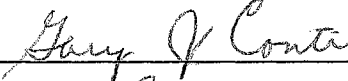
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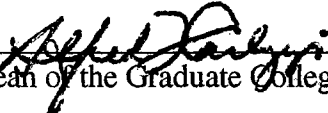
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## CHAPTER 1

### INTRODUCTION

#### Organization of the Study

This research study begins with an introduction of current adult education participation rates in the United States, as reported by the U.S. Department of Education (1999). Following these statistics are Dirkx and Lavin's (1995) assumptions of the characteristics of adult learners. These assumptions are based on the theory of andragogy. To further validate the characteristics of adult learners as accurate, special attention will be given to assumptions of adult learners by Lynch and Chickering (1989). The chapter continues with an introduction to the review of related literature. Houle's typology (1961) is summarized and introduced as the conceptual framework for this research. The review of the related literature in Chapter 2 is followed by a description of the method, a description of the participants, the measuring instrument, research design and procedure, and analysis of data in Chapter 3.

#### Background of the Problem Addressed in the Study

In 1991, an estimated 58 million adults in the United States participated in adult education activities, including part-time credential programs in the preceding 12 months; by 1999, this number had grown to an estimated 90 million adults (U.S. Department of Education, 1999). Adult learning, in most cases, tends to be voluntary and is heightened when the learning process serves as a perceived and immediate need. The concept of

motivation stands at the center of the educational arena. Terrel Bell, former Secretary of Education, put it well: “There are three things to remember about education. The first is motivation. The second one is motivation. The third one is motivation” (Maehr & Meyer, 1997).

There is a vast array of research that extols the adult learner and the adult learning process; in addition, there have been multiple studies that have identified barriers to participation in adult education, as well as the reasons why adults do or do not participate in adult education activities. With this, the question of what sources influence the decision to participate in these activities still remains.

There are more adults in our society than ever before, and the population is continuing to age. In comparison to the colonial times when half of the population was under the age of 16, in 1990, fewer than one in four Americans were under the age of 16 and half were 33 or older (U.S. Bureau of the Census, 1992). The increasing number of adults that are participating in adult learning activities solidifies this shift from a youth-oriented to an adult-oriented society. With this shift in age of our population comes a change in the profile of the students in post secondary education. College classrooms are no longer filled predominantly with recent high school graduates. The student populations of today’s classrooms, both formal and informal, are much more diverse in age than ever before.

The impact of a rapidly changing society is reflected in the growing number of adults engaging in some type of educational activity. Statistically, adult learners constitute over one half of all students enrolled in higher education courses (U.S.

Department of Education, 1999). For the most part, these adult learners are in a state of transition, seeking to improve their situation through degree or certificate-related education. They encompass a broad spectrum including growing numbers of women, displaced homemakers, career changers, immigrants, second career retirees, single family parents, and individuals who are seeking education for professional development ([www.ed.gov/databases/ERIC\\_Digests/ed360946.html](http://www.ed.gov/databases/ERIC_Digests/ed360946.html)).

Adult education is a diverse arena defined in a variety of ways (Merriam & Caffarella, 1991). According to the U.S. Department of Education (1999), an estimated 58 million adults participated in adult education activities in 1991; by 1999, this number had grown to an estimated 90 million adults. Formal learning experiences may take place in independent adult education organizations, educational institutions, noneducational organizations, and quasi-educational organizations. Merriam and Caffarella (1999) explain these settings as follows:

- 1.) **Independent adult education organizations.** These organizations exist for the primary purpose of providing learning opportunities for adults. They can be community-based or private.
- 2.) **Educational institutions.** This category includes educational institutions, including public schools and post secondary institutions of all sorts that have had as their primary mission serving youth.
- 3.) **Noneducational organizations.** The primary mission of these organizations is noneducational. These organizations view education as a means to some other end. Educational opportunities, in this setting, are more geared toward a focus group - such as an organization's employees.
- 4.) **Quasi-educational organizations.** This category includes organizations, public or private, that consider education of the public to be an integral part of their mission. This category also includes cultural organizations

(libraries, museums, and mass media) and community organizations such as service clubs and religious and civic organizations.

To put the 1999 participation numbers into context, it is useful to compare the direct correlation between the participation patterns of adults in education activities and the construct of motivation. In addition, this study introduces the sources of the level of motivation as the underlying factor in the adult learners' academic decisions.

This study includes supporting research by experts in adult learning and adult education and borrows from Houle's typology (1961) to explain participation. Boshier's (1982) Education Participation Scale (EPS) was used to measure the motivation sources of the participants in this study. This instrument was chosen because of its similarity to the conceptual framework guiding the study. Chapter 3 will include an in-depth review of the Education Participation Scale.

### Formal Statement of the Problem

As the context of adult learning changes, such as advanced technology, digitizing, globalization of the economy and fluctuations in the economy, so do the reasons for participating in adult education. The wealth of studies dealing with participation in adult education is a clear-cut indication of the importance which other investigators have attached to the subject, perhaps because of the prodigious growth of all organized forms of adult education (Houle, 1961). Educators are inquiring into who these adult learners are, why they are participating, and what factors can promote greater participation. The adult learner's level of motivation is determined by internal expectations of the individual and environmental factors as perceived (Cross, 1981).

### Purpose of the Study

The purpose of this study is to survey participation patterns of adult learners in Logan County to identify what motivations adults in this study demonstrate to participate in adult education. This follows the theory of the contextualization of adult education. In Logan County, which is a growing urban cluster, amid technological changes, this study also identifies changing motivational factors of a defined population.

### Research Questions

Specifically, answers to the following questions were sought:

- 1.) *What factors motivate adults living in an urban cluster area to participate in adult education activities as measured by the EPS?*
- 2.) *What is the relationship between age and reasons for participating among adults living in an urban cluster area?*
- 3.) *What is the relationship between gender and reasons for participating among adults living in an urban cluster area?*
- 4.) *What is the relationship between ethnicity and participation among adults living in an urban cluster area?*

### Limitations

Several limitations exist in adult education activities in the United States. Of these many limitations, the most fundamental in accounting for participation or lack of participation is the information barrier, especially among the disadvantaged sectors of the adult population. In 1962, Johnstone and Rivera found that one-third of all adults had no

knowledge whatever of educational resources for adults in their communities. More recent studies confirm Johnstone and Rivera's findings. Not only are many adults unaware of educational opportunities, but about one-fourth of the adult population does not know where to go or whom to ask to get information about learning opportunities (Elias, 1982). With information barriers, the responsibility of communication lies both with social institutions and the adult learners.

Numerous limitations surround this research study. First, Logan County possesses a unique set of demographics and social status. Defined by the U.S. Bureau of the Census (2000) as an urban cluster, Logan County is 81.6% white, 11.0% black and 2.9% American Indian, with Asian persons and other races making up the difference of 4.5%. Of this population, 12.3% are elderly (65 years and older), 57.9% are between the ages of 20 and 64, and 29.8 % are under the age of 20 years. In addition, female persons make up 50.6% of the Logan County population, with 49.4% being reported as male. There are 12,389 households in Logan County with approximately 2.57 persons per household (U.S. Bureau of the Census, 2000). Marital status, race, and socio-economic status and gender were not considered as factors in selection; therefore, the adult population size for this study was approximately 19,000. In addition, approximately 33% of households in Logan County make less than \$25,000 annually. In families where both parents are present, 8.7% live below the poverty level. In families with a female householder and no husband present, 29.6% live below the poverty level. In individuals aged 18 to 64, 12.9% live below the poverty level (U.S. Bureau of the Census, 2000).

These demographics make this study subject to the new welfare mandates.

Because of a low socioeconomic status, a high percentage of the population may receive welfare assistance. Along with that assistance comes a requirement to attend classes and educational activities. Therefore, poverty level is seen as a limitation in this study and a possible biasing influence.

Secondly, the high percentage of adults (population 25 years or over) in Logan County who do not have higher than a high school diploma (53.1%) is a limitation of the generalizability of the study. The survey was distributed to a random sample and is representative of the county population. Therefore, a high percentage of non-degree households received and completed the survey. Although the conclusions are not generalizable, they may be transferable to certain situations in other fields of education (Guba, 1981), especially where adult education serves areas of comparatively low educational attainment.

#### Significance of the Study

Participation information could “assist educators and administrators in identifying and meeting the needs of a wide spectrum of learners relative to program content, as well as time, duration, and location of related activities” (Fujita-Starck, 1996, p. 39). From a researcher’s viewpoint, an understanding of why people participate would facilitate the construction of theories and models with parsimony, predictive utility and implications for practice (Boshier, 1976). In addition, knowledge about participation is useful to policy makers in terms of funding and to those who plan and implement programs (Merriam & Caffarella, 1999).

Additional research in the area of motivation to participate in advanced education will assist educators in determining participation patterns of adult learners. On a local level, this information will allow competing providers of adult education, such as technology centers, colleges, and universities to determine methods of recruitment and marketing for new students. In addition to institutions of education, industry that is considering moving into Logan County will have an accurate profile of the current workforce's educational level and continued motivation to further learning. There are several other agencies and entities that may find this information valuable when assessing the profiles of adult learners in various geographic areas with similar characteristics.

#### Definition of Terms

The author provides operational definitions for any terms that may lack precise meaning.

- |                              |  |
|------------------------------|--|
| Motivation -                 | Gagne and Medsker (1996, p. 168), define motivation as a cognitive persistence, the drive, tendency or desire to undertake or complete a task, expand effort and do a quality job. |
| Adult learner -              | a person between the ages of 18 and 64 that participates in some type of adult education activity.   |
| Adult education activities - | voluntary and required activities that are formal, as defined by the presence of an instructor, as well as informal, those that do not involve an instructor.                      |



The specific types of educational activities include:

**Adult basic education (ABE), and General Education preparation (GED)** - programs or classes that help adults to improve basic skills and prepare for the high school equivalency exam or a high school diploma.

**Credentials programs** - formal post secondary education leading to a college degree, vocational or technical diploma, or other education related certificates.

**Work-related courses** - those activities that are related to a job or career, other than post secondary and apprenticeship programs.

**Personal development courses** - courses that are lead by an instructor and do not fall into the other categories. (NCES, 1999)

Urban Cluster-

Areas of small and sparsely settled populations with more than 2,500 people and less than 50,000 people (U.S. Bureau of the Census, 2000).

### Summary

This type of research is important for numerous reasons. There is a vital importance of knowledge to a county's economic health and living standards. Not only are the adults of the community affected, but investments in future generations—in the education and training of a city's youth, in acquiring skills and maintaining those skills—are increasingly important as an essential requirement for a county's long-term growth and competitiveness. In order for a county of this size to understand its participation profile and participation patterns, studies such as this are essential.

## CHAPTER 2

### REVIEW OF RELATED LITERATURE

#### Introduction

The modern era of adult education began after the First World War, and since that time there has been a persistent interest in motives or reasons that impel adults to participate in formal educational activities. Conventional wisdom asserts that program planners should use data concerning motivation to participate to design courses that meet learners' needs. The interest in motives for participation is not all altruistic; the adult educators' salaries and survival are sometimes dependent upon their ability to use motivation data to attract people into their courses. There are two branches to the motives for participation research tradition. The first concerns the structure of motives (motivational orientations); the second concerns functional relationships between motives and their antecedents (Husen & Postelthwaite, 1985).

Historically, participation in adult education was largely voluntary. Today, more adults are participating in some type of adult education activity than ever before. During the past decade, the rate of participation in adult education increased. The total proportion of adults ages 18 and older who participated in adult education in the previous 12 months increased from 38 percent to 50 percent between 1991 and 1999 (Snyder, 2001).

According to Merriam and Caffarella (1999), the profile of the adult learner has remained consistent: white, middle-class, employed, younger, and better educated than the non-participant. Employment-related reasons account for the majority of participation interest in continuing education (U.S. Department of Education, 1999). This chapter

presents a review of relevant literature on motivators of adult learners and Houle's (1961) learner-orientations typology.

### Assumptions about the Adult Learner

Malcolm Knowles's (1980) concept of andragogy is the best-known guide to adult learning practice. The term andragogy was first used in Germany as early as 1833 (Knowles, 1973). Andragogy, initially defined as "the art and science of helping adults learn", has taken on a broader meaning since its introduction. In 1973, Malcolm Knowles authored The Adult Learner: A Neglected Species, a comprehensive adult learning theory. In his book, Knowles (1973) asserts that adults require certain conditions to learn. His model claims five issues that must be considered and addressed in a formal learning situation. They include (1) letting learners know why something is important to learn, (2) showing learners how to direct themselves through information, and (3) relating the topics to the learners' experiences. In addition, (4) people will not learn until they are ready and motivated to learn. Often, this (5) requires helping them overcome inhibitions, behaviors, and beliefs about learning.

Malcolm Knowles (1980) considered motivation to be one of the cornerstones of the andragogical model. External motivators, such as high salaries and better jobs are significant; however, intrinsic motivators, such as self-esteem are more potent. Self-esteem is a function of the distance between the ideal self and the perceived self. An adult learner's confidence in his abilities directs him into situations that will require the

use of those competencies. Adults experience both internal and external self-concept motivations. The adult learner's concept leads to individual patterns of behavior.

Dirkx and Lavin (1995) offer several assumptions about the adult learner based upon the research and theory of andragogy. First, adult learners are diverse, bringing a wealth of life experiences to the learning situation. Adult learners vary in educational background, socio-economic status, age, cultural backgrounds, and many other variables. They bring personal experiences as well as personal expectations to the learning situation. When comparing child learning to adult learning, adults have more experiences, adults have different kinds of experiences, and adult experiences are organized differently (Kidd, 1973). In addition, these experiences can become barriers to learning. Some adults may have negative feelings towards educational activities that have to be changed in order to participate successfully and benefit from the experience.

Second, adult learners want to relate the content of their learning experience to their lives. Research has shown that adults are more often motivated to participate in learning based on changes in their lives (Merriam & Clark, 1991). Aslanian and Brickell (1980) state that most adults "learn in order to cope with some change in their lives" (p. 111) and conclude that this learning is tied to a triggering event. Often times, these events or transitions are the motivating factors in an adult's decision to participate in adult education activities. Aslanian and Brickell (1980) concluded that 83 percent of adult learners participated in learning in order to cope with a life transition. Adults continually experience life transitions, whether anticipated or unanticipated, and react to them depending on the type of transition, the context in which it occurs, and its impact on their

lives (Merriam & Caffarella, 1999). In particular, normative life events, those events that are expected to occur when they do, lead to a shared experience in a person's life. The timing of these normative life events is essential to the stability of adult life. Although the timing of these events may change, such as a person waiting until she was 30 years old to get married, the event itself still indicates a life transition and leads to a learning experience. These experiences shape an adult in his or her own culture and learning as byproducts of the experiences themselves. In addition, non-normative events may take place in a person's life. These are events that cannot be predicted or foreseen and can certainly play a significant role in shaping a person and directing, or re-directing, his or her life course. Merriam and Clark (1991), assert that it is not the events in and of themselves, but the learning that we derive from these events - both the ones we can predict and the ones that come as total surprises - that shape our lives. The individual determines the significance of the event and the impact that it will have on his or her life.

Third, adult learners prefer to have control over their educational experiences. The degree of self-directedness depends on the level of maturity and familiarity to the content they are learning. Brookfield (1993) argues that adult learners must exert control over all educational decisions. It is often difficult to shift this control from educator to student; however, it is imperative in the adult learning process. The element of control gives adult learners the opportunity to take an active part in determining their career path. In addition, adult learners must have access to adequate resources that will allow them to exercise and control self-directed learning. Lack of access to these resources prevents adults from appreciating the significance of their contributions and lessens the satisfaction

of learning. There is a major difference in the institutional resources for learning that are available to children and adults in our society. Schools provide children with a clear progression of advancement through the system with regular assessments of progress. Institutions for adult learning are not organized into a system in which individuals can track their progress. Adult learners, therefore, need to construct the progression of their learning from fragmentary resources (Hull, 1998).

In addition to these assumptions, Lynch and Chickering (1989) have offered the following distinguishing characteristics of adult learners:

- A wide range of individual differences, sharply etched
- Multiple demands and responsibilities in terms of time, energy, emotions, and roles
- Varied past experiences
- A rich array of ongoing experiences and responsibilities
- Concern for practical application, less patient with pure theory, less trust in abstractions
- Great self-determination and acceptance of responsibility
- Great need to cope with transitions and with existential issues of competence, emotions, autonomy, identity, relationships, purpose and integrity (p. 20).

#### Life Transitions as Motivators

Motivation is a basic part of our responses to situations. All life experiences hold the potential for learning. Some we do not attend to either because they are congruent

with previous experience and go unnoticed, or, at the other extreme, they are too antithetical to our beliefs and values to be accommodated at all. Learning can be defined as the act of attending to and reflecting on the experience. The learning becomes significant when it personally affects us and is subjectively valued (Merriam & Clark, 1991). With respect to learning, Merriam and Clark (1991) discovered that the work and love events of people's lives functioned in two ways – as a stimulus for other learning, and as a source of learning in and of themselves. For example, a divorce might motivate someone to learn new career skills, or a geographical move might result in learning about another culture (Merriam & Clark, 1991).

In order for experience to be useful in learning, a person must reflect on the experience. There has been a great deal of research done in this area. A person has to evaluate the experience on his or her own terms and make sense of the experience. Reflection allows the connection between the experience and the person's meaning system to be made. This process results in a change in conceptual perspective. Mezirow (1991) has done the most important work in this area. Mezirow draws strongly on the theory of transformative learning to explain how adult learners make sense or meaning of their experiences, the nature of the structures that influence the way they construe experience, the dynamics involved in modifying meanings, and the way the structure of meaning themselves undergo changes when learners find them to be dysfunctional (Mezirow, 1991).

Motivation to learn is a complex phenomenon that many psychologists and educators are continually trying to better understand. In adulthood, motivation is linked

to the needs and interests inherent in an adult's life situation (Merriam & Clark, 1991). Kidd (1973) explains "one of the reasons that adults continue to learn well...is that they concentrate their learning in the areas of experience in which their interests lie. Thus, their motivation is substantial, as everyone knows, wanting to learn is the greatest aid to learning" (p. 91). Kidd (as cited in Merriam & Caffarella, 1991) also posits that adult learners have more life experiences, different kinds of life experiences, and that adult life experiences are organized differently than that of a child learner. Furthermore, adult learners are more able to use their life experiences as a resource to their learning. Clearly, "the need to make sense out of one's life experiences is often an incentive for engaging in a learning activity in the first place" (p. 307).

Echoed by Merriam and Clark's studies, Aslanian and Brickell (1980) sought to test the hypothesis that life transitions motivate adults to seek out learning experiences. Their research showed that 83 percent of the learners in their sample could describe some past, present, or future change in their lives as reasons for learning. The other 17 percent were engaged in learning for its own sake (Merriam & Caffarella, 1999). These transitions were categorized into seven types. Fifty-six percent of the learners were learning because of some work-related transition, and 16 percent were involved because of a family-related transition, such as divorce or the birth of a child, or so on. The other transition areas and the percentage of learning activities were as follows: leisure (13 percent), art (5 percent), health (5 percent), religion (4 percent), and citizenship (1 percent). They also classified the specific events that triggered the transitions and found that 56 percent of the triggering events were career-related and 36 percent were family-



related (Merriam & Clark, 1991). This research study and others like it have been helpful in identifying reasons adults give for participating in learning activities.

In addition, Jarvis (1987) posits that there is a clear relationship between experience and learning. Jarvis holds that learning involves the transformation of experience into knowledge. For him, “life is about experience; wherever there is life there are potential learning experiences” (p. 164). Experience functions in different ways in the decision to participate. There is a clear need to make sense out of life experiences and experience is often the catalyst for initiating and participating in learning activities.

#### The Prototype for Participation: Houle’s Typology

The question of why adults participate in education has long been of interest to adult educators. Prior to 1961, most conceptualizations of this fundamental question were primitive. Early efforts to identify motives relied mostly on crude checklists of reasons for participation or on direct questioning of persons who often were not fully aware of their reasons for participation (Darkenwald, 1977).

In 1961, Cyril O. Houle published The Inquiring Mind, in which he reported on his efforts to identify basic structure underlying the diverse reasons that people give for participating in adult education. He chose a small, select sample of 22 adults who were engaged in some type of continuous learning and categorized the various reasons given for participation in adult learning activities. Houle (1961) conducted in-depth interviews that explored the subjects’ history of learning, factors that led them to be continuous learners, and their views of themselves as learners. This typology consists of the *goal-*

*oriented* learners, who use education as a means of achieving some other goal; *activity-oriented* learners, who participate for the sake of social interaction and the activity itself; and *learning-oriented* learners, who seek knowledge for its own sake.

The goal-oriented learners begin with the realization of a need or by identifying an interest in a particular subject. These learners do not follow a steady stream or flow of learning. The education of the goal-oriented learner is in episodes (Houle, 1961). For Houle, the goal-oriented learners are easiest to understand since “the need or interest appeared and they satisfied it by taking a course, joining a group, reading a book, or going on a trip” (Houle, 1961, p. 18). Goal-oriented learners describe themselves as seekers after goals, they attribute similar motives to other learners, and the history of their continuing education shows clearly that they have always taken courses or engaged in other forms of activity chiefly because they will be helped thereby. The goal-oriented are indifferent to and even impatient with any kind of education, which is not explainable in their own terms. They seem aware of their penchant for the immediately practical. For other goal-oriented learners, the desire to credit themselves with diplomas, certificates, or degrees motivates them to participate in educational activities. Such people care little (often nothing) for the subject matter itself and, at the end of the term, they may be found in a long line at the bookstore selling back the volumes which they had been required to buy and for which they now feel no further need. Some credit-seekers really want to know the content of the courses they take and therefore are goal-oriented; but most teachers who have taught credit courses for adults have found in their classes individuals who indicated, usually politely, that it was only the activity and what its completion could

bring that mattered to them (Houle, 1961). This goal-orientation is analogous to the professional advancement factor in Boshier's Education Participation Scale. Both factors attempt to explain a clear and apparent desire, by the adult learner, to identify a goal and to accomplish it. The end result is what motivates the adult learner.

Activity-oriented adults like to be doing something and seek out the social contact. They take part in learning primarily for reasons unrelated to the purpose or content of the activities they engage (Houle, 1961). These adult learners like to be part of a group and to fit in. For these learners, socialization through these educational activities provides these adults justification for their participation. There are several reasons that have been identified as possible reasons for continuous learning for activity-oriented adults. For some adults, feelings of loneliness may cause people to seek out interaction and to fill a void. Being around other people reduces those feelings and is the real joy to their participation. According to Boshier, activity-oriented learning is, "multifaceted and composed of items normally labeled Social Stimulation, Social Contact, External Expectations, and Community Service" (Merriam & Clark, 1991, p.125).

Learning-oriented adults have the "itch to learn....the fundamental purpose which lay back of all their considerable educational activity was quite simply the desire to know" (Houle, 1961, pp. 24-25). This subgroup differs from the other two much more remarkably than either of them does from the other. Each particular educational experience of the learning-oriented is an activity with a goal, but the continuity and range of such experiences make the total pattern of participation far more than the sum of its parts. These learners like to read and grew up reading. They enjoy being part of a group

or club with an educational focus. In addition, they seek out educational television and radio programs. Among the learning-oriented, there are two distinct self-conceptions. Most of the people in this subgroup have long been aware of their own preoccupation with learning, and they recognize that they are different from most other people in this respect (Houle, 1961). For many of these learners, learning becomes almost a religious experience and their desire to learn is as strong as some people's religious faith. The second self-conception of the learning oriented - that fun is the sole motive for their educational activity (Houle, 1961). These learners get as much fun out of reading and studying as some people get out of sports or the arts. Again, Houle's (1961) learning-orientation is similar to Boshier's concept of cognitive interest. These learners participate in educational activities for the sake of learning. It is unimportant, in most cases, how the learned information will be used. The joy lies in the participation in the learning process.

Typologies provide a framework within which individuals can be classified. If a person is not a "pure" type, he or she can be described in terms of the extent to which they resemble the types. For Houle, the central emphasis of each orientation was clear; they could, however, be portrayed as three circles overlapping at the center. Houle's study spawned a number of quantitative investigations designed to test the veracity of the typology and correlate orientation scores with a variety of sociodemographic and life-cycle variables (Husen & Postelthwaite, 1985).

If it is true that most adult learners fall into one of these three categories, then there is a clear use for this in understanding and guiding adult education. This work by Houle (1961) provides an underlying structure for motivational orientations of adult

learners and has been greatly supported by subsequent investigations of adults' motivation to learn. Most of the subsequent research has attempted to test and refine Houle's basic concepts. The best research has employed carefully developed measuring instruments and the statistical technique of factor analysis to probe the underlying structure of reasons for participation (Darkenwald, 1977).

#### Further Development of Houle's Typology

Building on Houle's (1961) learning orientations, Boshier (1973) made consistent contributions to the knowledge of participation through factor analytic studies and the development of a participation scale. In New Zealand, Boshier studied the participation and dropout behavior of adult education participants. At the same time, he developed the Education Participation Scale (E.P.S) that was eventually published in 1982. The 42 items were derived from the following sources: interviews with participants, examination of The Inquiring Mind, perusal of Sheffield's work, and perusal of Burgess's work. Boshier (1973) administered a variety of instruments to 2436 participants enrolled in adult education classes at the Wellington High School Evening Institute, the Department of Extension at Victoria University and the Workers' Educational Association in New Zealand. The 42 E.P.S items were cast on a nine-point scale and administered to a subsample of 233 participants drawn at random from the population of 2436. Rather than proceeding directly to a study of variables associated with each of the orientations, he examined the structure of the EPS correlation matrix to test how well the data "fitted" Houle's typology (Boshier & Collins, 1985). The authors were able to effect a three-

cluster solution “loosely isomorphic with Houle’s typology”(pg. 125). They found that “Cluster I consisted of the Cognitive Interest items and was congruent with Houle’s learning orientation”. Cluster II, the activity orientation, “was multifaceted and composed of items normally labeled Social Stimulation, Social Contact, External Expectations, and Community Service” (pg. 125). Cluster III consisted of the Professional Advancement items and thus resembled Houle’s goal orientation.

### Barriers to Motivation and Learning

Internal and external barriers contribute considerably to the participation rate of adults in institutional education programs. Most adults spend at least eight hours a day working and often hours attending to family, household, and community concerns (Merriam & Caffarella, 1999). According to Merriam and Caffarella (1999), the two most cited reasons for non-participation are lack of time and money. For some adults, reasons for non-participation may be both psychological and social.

Johnstone and Rivera (1965) completed one of the first studies on non-participation. The results of this study showed that nearly 43% of the participants did not participate due to lack of financial resources. The next major contributor to non-participation was time constraints due to other commitments. In their study, Johnstone and Rivera (1965) identified that nearly 39% of the participants did not participate because they were too busy.

As classified by Johnstone and Rivera (1965), barriers to participation can be situational (external) or dispositional (internal). Situational barriers refer to those barriers

caused by the situation an adult finds himself or herself in at the time of participation. They are “at least beyond the learner’s control” (p. 214). Dispositional barriers refer to how the adult feels about him or herself. Darkenwald and Merriam (1982) also cite institutional barriers, but they divide the dispositional barrier into psychosocial obstacles (beliefs, values, attitudes, and perceptions about oneself as a learner), as well as the informational obstacles, which are centered on a lack of awareness of available educational opportunities. According to Johnstone and Rivera (1965), older adults cited more dispositional barriers, while younger adults and women were more constrained by situational barriers. Of the two classifications, dispositional barriers are more often noted by adults for non-participation.

Cross (1981) added another classification to these barriers. Institutional barriers consist of “all those practices and procedures that exclude or discourage working adults from participating in adult education activities” (p. 98). These barriers may include rules and regulations of an institution, scheduling problems, transportation or location problems, and lack of interesting courses (Cross, 1981).

Barriers to participation are real to adult learners. People are often deterred by personal problems, lack of confidence, educational costs, lack of interest in organized education generally, or lack of interest in available courses (Merriam & Caffarella, 1999). They are potent and preventive obstacles that often hinder the decision of adult learners to participate in adult education activities. Some obstacles, although easy to overcome, can negatively affect the adult learner’s perception of the learning process and therefore cause a person to choose to not participate.

## Philosophical Assumptions

Since its inception, there has been a strong interplay between philosophical thinking and adult education. At an explicit level, adult educators make use of particular philosophical perspectives or positions in order to support and provide a rationale for educational practice. Beneath these philosophical positions, we can discern more general ideas and principles shared by a number of philosophical schools, positions, or perspectives that together make up a broad intellectual tradition (Peters & Jarvis, 1991).

In a world that is undergoing unprecedented change, economic, political and societal forces that are constantly redefining educational needs drive the practice of adult education. Ideologies and philosophies, society and individuals, provide the base from which decisions are made within educational institutions. Elias and Merriam (1995) propose that “theory without practice leads to empty idealism and action without philosophical reflection leads to mindless activism” (p. 4).

The idea of adulthood is itself normative rather than descriptive, and it is these normative concepts of adulthood and adult education that are implicitly grounded in what might be called philosophical thinking (Peters & Jarvis, 1991). Philosophies of adult education, like all thought systems, originate within particular socio-cultural contexts. Though individual philosophers are responsible for developing a philosophical approach to adult education, the development of their thought is greatly influenced by the particular problems, issues, and challenges that existed in their culture (Elias & Merriam, 1980).

Looking at philosophies of education, the history of societal needs helps to explain how certain practices came into existence. In researching the various



philosophies of education, there are six that have contributed to practice in the last two centuries (Elias & Merriam, 1995). These philosophical orientations include Liberal, Progressive, Behavioristic, Humanistic, Radical and Analytical Philosophies of Adult Education.

The philosophical assumptions of this study are grounded by Progressivism. Progressive education has often been associated with more active learning, cooperative planning by teachers and students, a greater recognition of individual differences, attempts to relate learning to “real life” and efforts to broaden the mission of educational institutions to address health, vocational, social and community issues.

This philosophy of adult education is concerned with the well being of society and an individual’s role in society. Learners of this philosophy need problem solving skills and practical knowledge (Boone, Buckingham, Gartin, Lawrence, & Odell, 2001). The focus of this study is to relate motives for participation to real life needs and the well being of a county of 33,924 people.

Dewey (1939) assigns education a prominent role in bringing about social change and growth. According to Dewey, progressive education also entails focusing upon the learners’ needs and interests, incorporating practical as well as liberal subjects into the curriculum, and defining education as the interaction of experience with the environment.

#### Major Studies and the Education Participation Scale

Following publication of Houle’s The Inquiring Mind, Sheffield, (1962), a student at the University of Chicago, prepared a list of 58 reasons given by adults who

participated in adult education classes. The list contained 16 reasons deemed to be representative of each of Houle's three orientations plus ten which did not seem to fit any part of the typology. Sheffield compiled these in a questionnaire with items cast on a 5-point scale administered to 453 participants in 20 continuing education conferences. A factor analysis provided five factors, not three (as cited in Boshier & Collins, 1985).

Just four years after Houle's introduction of his typology, Johnstone and Rivera (1965) instituted a benchmark study of a national sample of 24,000 adults in the United States that studied the types of courses engaged in by people in different stages in the life cycle. Their study showed that while job-centered reasons impel younger people into adult education, the enrollment goals of older participants "are much less pragmatic and utilitarian". Leisure-centered goals also "varied dramatically" among persons of different ages. Only 10 percent of men in their 20s took courses with "spare-time interests" in mind, as compared with 16 percent of those in their 30s, 19 percent in their 40s, and 28 percent of those aged 50 or over. Johnstone and Rivera (1965) found that at all ages, men were more concerned with vocational goals while women enrolled "relatively more often in response to home and family life and leisure time interests" (p. 11). These findings were congruent with developmental psychology and led to elaborations of program planning theory founded on the notion that men and women of different ages have different reasons for enrolling in adult education classes (Boshier, 1985).

In 1971, Burgess compiled a questionnaire administered to 1,046 subjects in the metropolitan area of St. Louis, Missouri. The purpose of this study was to examine the relationship between socio-demographic characteristics and what Houle called "learning

orientations”. Data from this group resulted in fifteen factors, of which seven were interpretable. However, there was a problem with his interpretation of statistics. Burgess (as cited in Boshier & Collins, 1985) failed to realize that the computer program used to generate factor scores in his study normalized them (mean of zero, variance of one). Intelligence and other human attributes are normally distributed throughout the population, so when Burgess saw normalized factor scores; he thought they made sense, even though they were an artifact of the computer program.

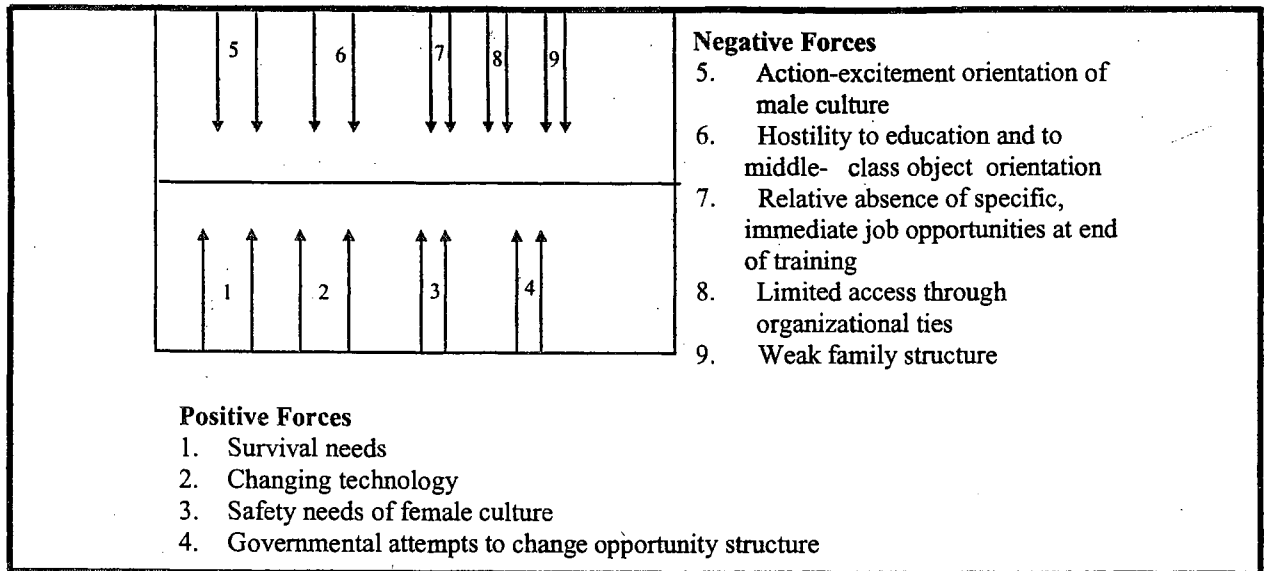
Building on Houle’s (1961) learning orientations, Boshier (1973) made consistent contributions to the knowledge of participation through factor analytic studies and the development of a participation scale. In New Zealand, Boshier studied the participation and dropout behavior of adult education participants. Around the same time, he developed the Education Participation Scale (E.P.S) that was eventually revised in 1976, and published commercially in 1982. The 48 items were derived from the following sources: interviews with participants, examination of The Inquiring Mind, perusal of Sheffield’s work, and perusal of Burgess’s work. Boshier (1973) administered a variety of instruments to 2436 participants enrolled in adult education classes at the Wellington High School Evening Institute, the Department of Extension at Victoria University and the Workers’ Educational Association in New Zealand. The 48 E.P.S items were cast on a nine-point scale and administered to a sub-sample of 233 participants drawn at random from the population of 2436. Rather than proceeding directly to a study of variables associated with each of the orientations, he examined the structure of the EPS correlation matrix to test how well the data “fitted” Houle’s typology (Boshier & Collins, 1985). The

would more likely participate in adult education activities that focused on job-relatedness and basic skills attainment (Merriam & Caffarella, 1999). He further concluded that adults that came from higher socioeconomic backgrounds would more likely participate in adult education activities that focused on satisfying achievement or self-actualization needs.

In addition, younger people were more likely than older people to participate in order to secure financial security. This conclusion is similar to the findings in this study that show that younger adults are more likely to participate in adult educational activities for reasons that provide professional advancement, which in turns generally provides more financial security. Miller also drew that the individual is affected by both positive and negative forces, and the direction and sum total of these forces would determine an adult's motivation to participate. This conclusion also adds merit to Boshier's seven-factor typology which shows that the factors he identified can be a positive and/or negative influence in an adult's decision to participate in adult educational activities.

Miller's model consists of the forces being identified by arrows. In this model, the larger the arrow, the stronger the force. The model shows four social classes (lower lower, working, lower middle, and upper middle) and four content areas (vocational, family, citizenship, and self-development). An example of Miller's model is shown in Figure 1. The arrows on the top of the figure represent the negative forces, while the lower arrows represent the positive forces affecting the adult learner.

Figure 1 Miller's Force-Field analysis Model - Education for Vocational Competence:  
Lower-Lower Class Level

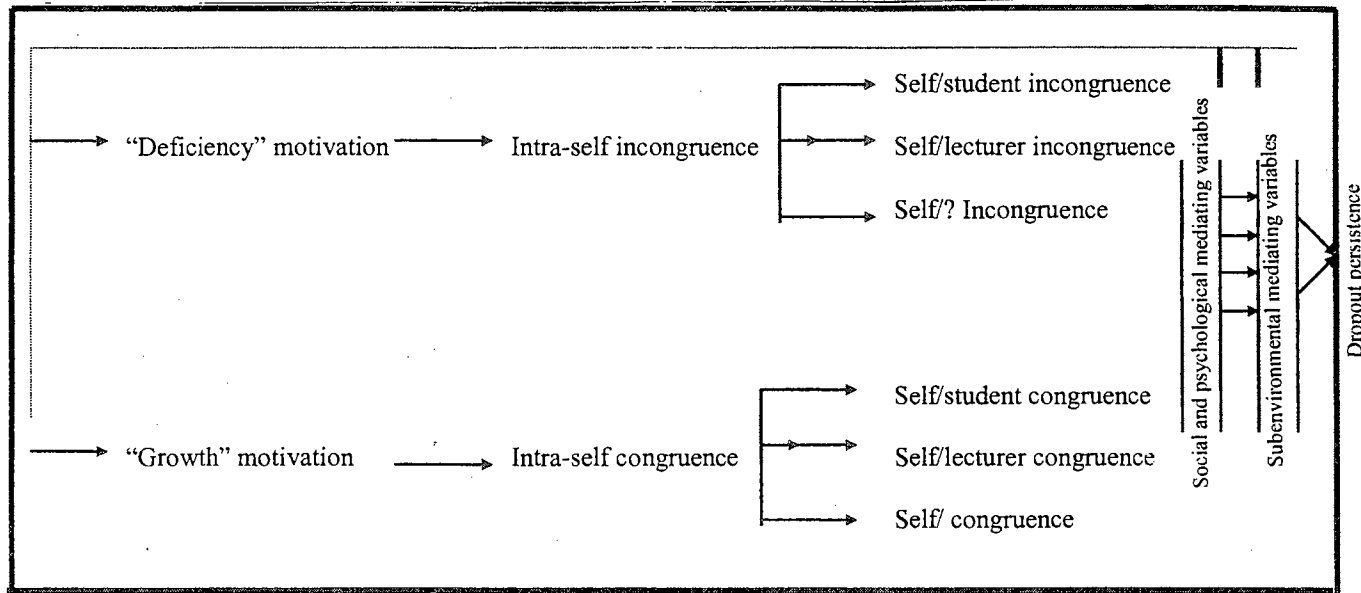


Source: Miller (1973, p.21) as cited in Merriam and Caffarella, 1999, p.61.

Similar to Miller's Force-Field Analysis, Boshier (1973) developed the Congruency Model, linking the interaction between personal factors and social factors. In his model, Boshier asserts that people are either growth motivated or deficiency motivated. The decision to participate is highly affected by the participant's educational environment. Those who are more deficiency motivated are more influenced by social and environmental forces. Boshier's model is centered on participation or lack of participation in adult education activities being determined by how people feel about themselves and the match between the self and the educational environment (Merriam & Caffarella, 1999). Figure 2 shows Boshier's Congruency Model being used to explain dropout from adult education institutions and the effect of social and psychological variables that influence the adult learner's decision to dropout. Just as life attitude changes occur in adults, as determined by this study, the sources of motivation to

participate in adult educational activities can also affect an adult learner’s decision to dropout from adult education institutions.

Figure 2 Boshier’s Congruency Model to Explain Dropout from Adult Education Institutions



Source: Boshier, 1977, p. 91.

Social and psychological variables, such as sex, age, social class and subenvironmental variables, such as transportation and class size mediate the cumulative effect of the discrepancies between how people feel about themselves and the educational environment. The arrows in the model suggest that these two groups of mediating variables have had a effect on the person’s orientation to learning in the first place (Merriam & Caffarella, 1999). With a sample of 1,372 university continuing education students, Boshier (1973) confirmed his hypothesis that those with high incongruence scores are more likely to drop out (as cited in Merriam & Caffarella, 1999, p. 62).

Expectancy consists of the anticipation of being successful in an educational

situation. Valence relates to the value a person puts on being successful; one could be positive, negative or indifferent (Merriam & Caffarella, 1999). As Merriam and Caffarella (1999) assert, perceptions are developed in numerous ways. They may be developed through socialization, whether family, school or work. They may be developed by structural factors in the environment - the values of people important to one's self-definition and accessibility of educational programs - can directly affect a person's perception of his or her environment. A person's needs, and how he or she experiences those needs, can also directly affect his or her choice to participate in adult education activities.

### Summary

In this chapter, the author has presented assumptions about the adult learner, life transitions as motivators to adult learning decisions, Houle's (1962) typology and life transitions as motivators as the conceptual frameworks for this study and barriers to motivation and learning. In addition, the author included models of adult learning which included Miller's Force-Field Analysis Model and Boshier's Congruency Model. Chapter 3 will detail the methodology of this research study.

## CHAPTER 3

### METHODOLOGY

#### Introduction

This quantitative study was conducted in an effort to measure current participation patterns and is descriptive in nature. The survey research provided quantitative data that answers the research questions addressed in this study.

This study is descriptive in nature and attempts to answer the questions concerning the current status of the study subjects. Descriptive studies usually assess attitudes, opinions, demographic information, conditions and procedures (Gay, 1996). There are numerous ways to collect data for descriptive research. The method by which the data was collected categorizes it into one of two types of descriptive research – self-reported and observation. This study can be classified as self-reported, due to the survey instrument used to collect the data.

This chapter will include a description of the procedure, a description of the population of Logan County, including a profile and characteristics of the county, the sampling method to be used, a summary of the measurement instrument to be used, and the procedure for analysis of the data.

#### Procedure

This study lasted approximately eleven months from beginning to completion. The sample was randomly selected in November, 2002 from a list of customers of Oklahoma Gas and Electric. While 1,000 surveys were mailed to randomly selected



addresses, 206 of these responses made up the data set. The response rate to the survey was 21%.

Preparation for the survey also took place during November, 2002. This time included preparing the cover letters (Appendix B) and the surveys (Appendix C), preparing the envelopes and beginning plans for distribution. A mail survey of the sample began in December 2002 and concluded in February 2003. A mailing of 1000 surveys was implemented during this time. Analysis of the data took place from February 2003 to October 2003.

Figure3 Research Timeline

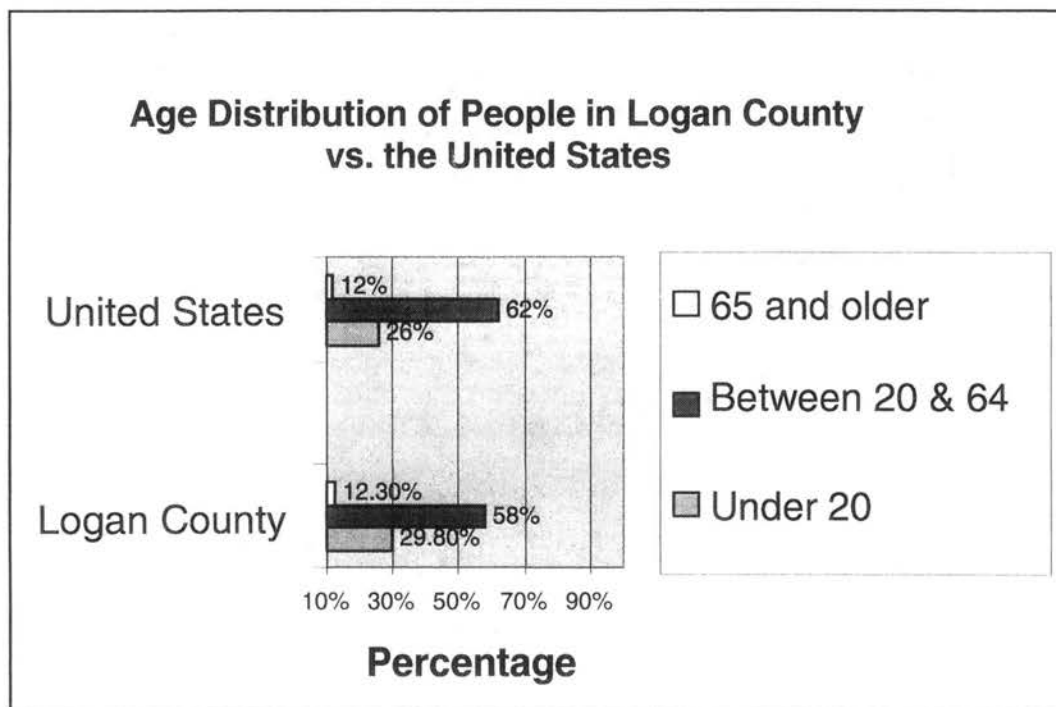
| <u>Research Timeline</u> |             |                           |                          |
|--------------------------|-------------|---------------------------|--------------------------|
|                          | November 02 | December 02 – February 03 | February 03 – October 03 |
| Sample Selection         | X           |                           |                          |
| Survey Preparation       | X           |                           |                          |
| Survey Distribution      |             | X                         |                          |
| Data Collection          |             | X                         |                          |
| Data Analysis            |             |                           | X                        |

### Population and Sample

Logan County possesses a unique set of demographics and social status. Defined by the U.S. Bureau of the Census (2000) as an urban cluster, Logan County is 81.6% white, 11.0% black and 2.9% American Indian, with Asian persons and other races making up the difference of 4.5%. Of this population, 12.3% are elderly (65 years and

older), 57.9% are between the ages of 20 and 64, and 29.8 % are under the age of 20 years. In addition, female persons make up 50.6% of the Logan County population, with 49.4% being reported as male. There are 12,389 households in Logan County with approximately 2.57 persons per household (U.S. Census Bureau, 2000). Marital status, race, and socio-economic status and gender were not considered as factors in selection; therefore, the adult population size for this study was approximately 19,000.

Table 1 Age Distribution of People in Logan County vs. the United States

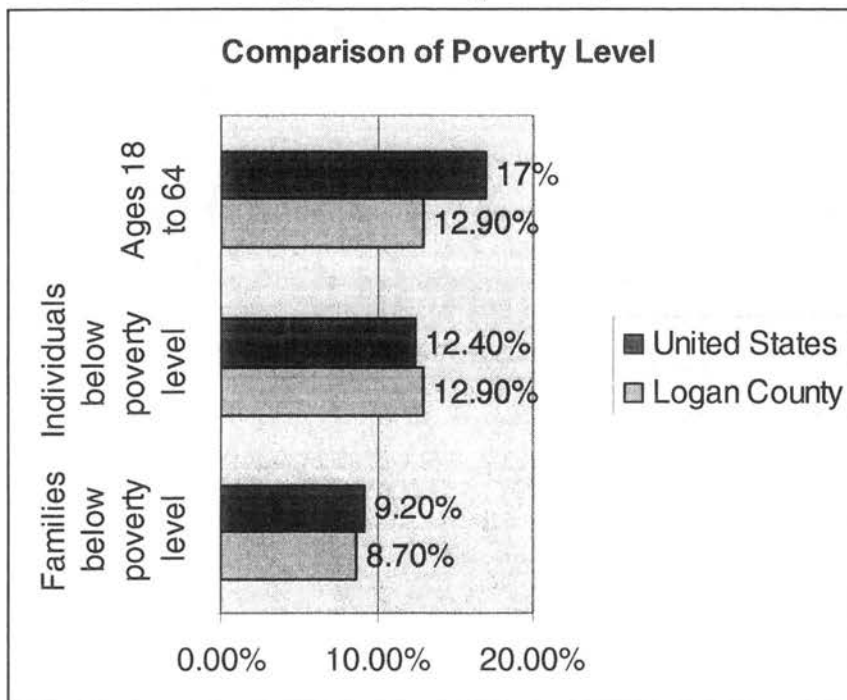


Source for U.S. data: Us. Census Bureau, 2000

Table 1 makes a comparison of the age distribution of people in the United States and the age distribution of people in Logan County. The age distribution in the Logan County is clearly similar to the United States population in terms of age distribution.

In terms of poverty, in 2002, 12.4% percent of individuals in the United States lived below the poverty level, while 9.2% of families lived below the poverty level. In addition, seventeen percent of related children under 18 were below the poverty level, compared with 10 percent of people 65 years old and over. Ten percent of all families and 28 percent of families with a female householder and no husband present had incomes below the poverty level. Eighteen percent of the households in the United States received means-tested public assistance or noncash benefits. In addition, approximately 33% of households in Logan County make less than \$25,000 annually. In families where both parents are present, 8.7% live below the poverty level. In families with a female householder and no husband present, 29.6% live below the poverty level. In individuals aged 18 to 64, 12.9% live below the poverty level (U.S. Bureau of the Census, 2000).

Table 2 Comparison of Poverty Level of Logan County vs. the United States



Source: U.S. Census Bureau, 2000

Table 2 shows that obvious similarities exist between the poverty level in Logan County and the United States. The most obvious difference, however, is in the 18 to 64 year old age group. This table shows that in this group, Logan County has a lower poverty level (12.9%) than that of the United States as a whole (17%).

The sample for this study was randomly selected from the OG&E list. In this study, random sampling was the best way to obtain a sample that was representative of the population. Although no technique, not even random sampling, guarantees a representative sample, the probability of achieving one is higher for this procedure than for any other (Gay & Airasian, 2000). The random sample was chosen by the following method:

- (1) The population was identified and defined.
- (2) The sample size was determined.
- (3) All individuals were listed by name on one inclusive list.
- (4) All individuals were assigned a consecutive number, starting with zero, until each individual had been assigned a number.
- (5) The researcher selected an arbitrary number to start from (five) and picked every 5<sup>th</sup> name on the list until 1,000 names had been chosen to make up the sample for this study.

The researcher chose to draw a sample from the current list of OG&E customers in Logan County. This choice was based on the assumption that the adults who were on the list were heads of households and/or property owners and would therefore fit Johnstone and Rivera's (1965) definition of an adult. This definition referred to an adult as being anyone either age twenty-one or over, married, or the head of a household. The number of responses needed to satisfy factor analysis requirements (Gay, 2000) allowed the researcher to determine participation patterns in adult educational activities in a county of 33,924 people (U.S. Census Bureau, 2000).

In this study, sampling error was beyond the control of the researcher. In reality, no sample will have a composition identical to a chosen population. Due to the random selection of the sample, however, the chances are high that the sample will closely represent the population.

Sampling bias greatly affects the validity of the study. Due to the names of the sample being chosen on a random basis, there is a low possibility of sampling bias. However, in surveys of human participants, some bias will be inevitably present, because of issues such as nonresponse. In addition, it is impossible to design a survey questionnaire or interview that is completely free of bias (Gay, 1996).

#### Instrument

The Educational Participation Scale (EPS) that was used in this study was developed by Roger Boshier (1982) in order to investigate Houle's (1961) conceptualization of motivational orientations. The EPS has primarily been used in studies that examine relationships between motivational orientations and sociodemographic variables. It was created in 1969 after interviews with a variety of participants, revised in 1976, published commercially in 1982, and has since spawned versions used to measure the motivational orientations of prison inmates and adult basic education participants (Boshier, 1989). Fujita-Starck and Thompson's (1994) study at the University of Hawaii empirically validated Boshier's EPS. In terms of motivation, the results validated Boshier's adult learner typology and the effectiveness of the Education Participation Scale in differentiating among a diverse group of students with varying

reasons for participating in continuing education. The findings indicated that the Education Participation Scale was useful in defining the salient differences in the motivations for participation among defined curricular groups, and provided constructs for understanding student motivation that could be related to variation in satisfaction in subsequent analyses (Fujita-Starck & Thompson, 1994).

The Education Participation Scale (Appendix C) is applicable in many different settings. The test-retest reliability and construct validity has been previously certified. Test-re-test reliability coefficients for the composite scales are expected to range from 0.70 to 0.90. Construct validity has been determined by a panel of experts and factor analysis (Boshier, 1982). This instrument, EPS, consists of 42 questions grouped into the following seven factors: communication improvement, social contact, educational remediation, professional advancement, social stimulation, family togetherness, and cognitive interest. Roger Boshier (1982) explains these seven factors as follows:

**Social contact** - People who score high on this factor participate because of the joy of learning with others. They like being part of a group.

**Social Stimulation** - People who score high on this factor are lonely or bored and participate in education to meet others and to grapple with problems in their social life. High scorers on this factor are often more unhappy and neurotic than low scorers.

**Professional Advancement** - People who score high on this factor participate in education to consolidate their hold on their current job, or to position themselves to get a new job. For them, education is a way to advance professionally.

**Community Service** - People who score high on this factor are socially-motivated and committed to "doing good" in civil society. They are participators and joiners. For them, education helps them do good work in the community.

**External Expectations** - People who score high on this factor participate in educational events because of the press at home or work. Many are not "volunteers for learning." Rather, they have been compelled to participate and are sometimes not happy about being forced to learn.

**Family Togetherness** - People who enroll to bridge generation gaps and improve family relationships and solidarity.

**Cognitive Interest** - People who score high on this factor participate in education for its own sake. For them, learning is life. They care less about how the new learning will be used. Rather it is the inherent joy of learning that impels their participation. For them, learning for its own sake is enough.

### Analysis of Data

The data collected in this research study are subject to two types of error, sampling and non-sampling errors. Non-sampling errors are errors made in the collection and processing of data. Sampling errors occur because the data are collected from a sample rather than a census of the population. With this, a variety of analysis was used on the data to answer the four research questions. Responses were entered into SPSS for Windows 95/98. To answer research question one, responses were analyzed using the factor analysis function of SPSS to determine the factor structure of the responses of this population. The procedure of factor analysis uses the intercorrelations among the entire collection of items indicated by respondents to determine underlying factors to which the involved variables relate. Put more simply and in relation to the EPS questionnaire, factor analysis is a way of clustering related scale items so as to yield separate, independent constructs that reflect the underlying structure of responses to the instrument (Darkenwald, 1977).

To answer research question two, the participants were segmented into the five age groups (18-24, 25-34, 35-44, 45-54, and 55-64) in order to see how they score on each factor by age group, using the analysis of variance function of SPSS. Age groups were the independent variables, while factors scores constituted the dependent variable. This procedure allowed the researcher to infer motivational differences due to age. In addition, to answer research question three, the participants were divided into male and female groups in order to see how each gender group scored on each factor. MANOVA procedure for SPSS for Windows was used to determine if motivational influences differed by gender. The independent variables were male and female, while the factor scores constituted the dependent variable. To answer research question four, the participants were segmented into four ethnic groups in order to determine participation in each group. The findings of this study are presented in the following chapter.

In order to determine the factors that motivate adults to participate in adult education activities, a factor analysis was conducted. Initially, principal component analysis was used to extract the initial factors identified in the statistical treatment of the data. Orthogonal rotation using the Variamax with Kaiser Normalization procedure was then used to minimize the number of loadings on a factor, thus simplifying the structure and making the solution more interpretable. The factor structure was required to approximate simple structure and items were required to load at least .36 on a factor (Stevens, p.371). Additional inspection of factor solutions also considered the number of items loading on each factor, with preference to solutions with more than four items loading on a factor. Careful consideration was given to each factor solution that met all of



these criteria and the final solution was selected to provide the most parsimonious representation of the data collected. By using a squared multiple correlation as the initial communality estimates, principal component analysis of the data was completed followed by Varimax orthogonal rotation. A seven-factor solution provided loadings greater than .36 for all factors. Additionally, a scree test supported a seven-factor solution as shown in Figure 3. The factor matrix produced by this process provided a meaningful and concise list of constructs representative of the factors that motivate adults to participate in adult education. In addition to the tests performed and mentioned above, the author created seven composite scores to identify the means and standard deviations of each factor in order to describe the education profile of the participants in the study.

CHAPTER 4  
STUDY FINDINGS

Introduction

Chapter 4 presents the research findings of this study. The findings are organized on the basis of the research questions underlying the study. Answers were sought to the following research questions:

- 1.) *What factors motivate adults living in an urban cluster area to participate in adult education activities as measured by the EPS?*
- 2.) *What is the relationship between age and reasons for participating among adults living in an urban cluster area?*
- 3.) *What is the relationship between gender and reasons for participating among adults living in an urban cluster area?*
- 4.) *What is the relationship between ethnicity and participation among adults living in an urban cluster area?*

Description of the Data Set

Of the 1,000 survey forms, there were a total of 206 participants who were surveyed. Participants in this study varied on a wide range of demographic and socioeconomic variables. Of those who participated in the study, 84 (40.8%) were male, 113 (54.9%) were female, and 9 (4.4%) did not indicate. The ethnic distribution was comprised of mostly Caucasians (58.7 %), while African Americans made up nearly 18.4 % (Table 10).

To assess age as a contributing factor to participation, participants were broken down into five age groups (Table 5). In this study, over half the participants (n=109, 52.9%) were in the 18-24 years of age range, while 22.3% were between the ages of 25-

34, 11.7% were between the ages of 35-44, 9.7% were between the ages of 45-54, and 2.9% endorsed the age group of 55-64. Finally, as can be seen in Table 4, credential (39.3%) and work-related activities (24.3%) made up over 50% of the sample.

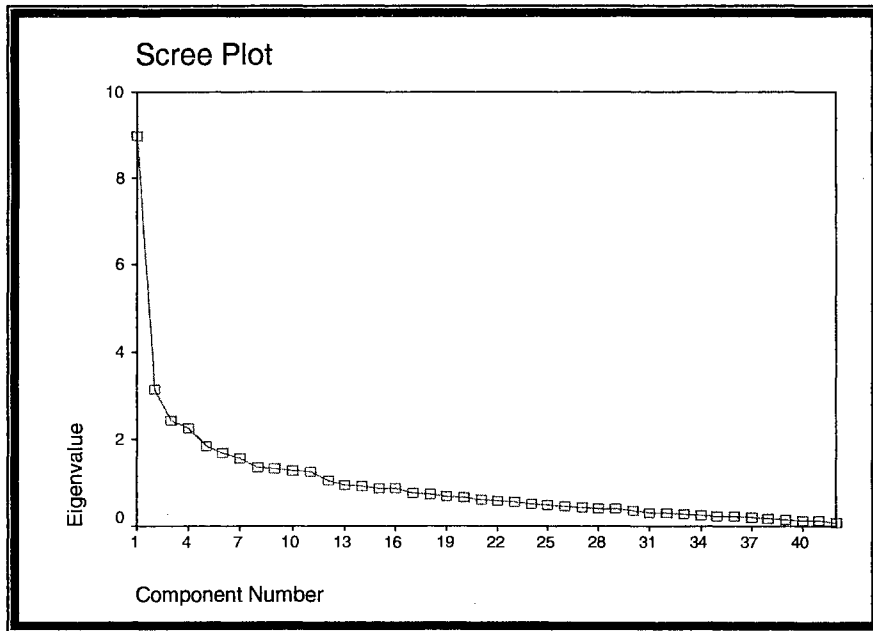
### Adult Motivation and Participation in Adult Education Activities

In order to determine the factors that motivate adults to participate in adult education activities, a factor analysis was conducted. Initially, principal component analysis was used to extract the initial factors identified in the statistical treatment of the data. Orthogonal rotation using the Varimax with Kaiser Normalization procedure was then used to minimize the number of loadings on a factor, thus simplifying the structure and making the solution more interpretable. The factor structure was required to approximate simple structure and items were required to load at least .36 on a factor (Stevens, p.371). Additional inspection of factor solutions also considered the number of items loading on each factor, with preference to solutions with more than four items loading on a factor. Careful consideration was given to each factor solution that met all of these criteria and the final solution was selected to provide the most parsimonious representation of the data collected. By using a squared multiple correlation as the initial communality estimates, principal component analysis of the data was completed followed by Varimax orthogonal rotation. A seven-factor solution provided loadings greater than .36 for all factors. Additionally, a scree test supported a seven-factor solution as shown in Figure 3. The factor matrix produced by this process provided a meaningful and concise

list of constructs representative of the factors that motivate adults to participate in adult education.

The seven-factor solution matrix resulting from the principal component analysis as described above is displayed in Table 3. This table shows the factor loadings (i.e., the Pearson correlation) between each question and each of the seven factors. Only correlations greater than .36 were reported based on the sample size (Stevens, p.366); that is, a loading is statistically significant when it is twice the standard error—twice the critical value required for ordinary statistical significance in a correlation. Seven factors were retained based on the scree plot. As evidenced within the scree plot (Figure 4), there were seven constructs that were found to relate to adult motivation and participation in adult education.. The scree plot is a method used to decide how many factors to retain. Stevens (1996) recommends “retaining all eigenvalues the sharp decent *before* the first one on the line where they start to level off.” The scree plot shows a sharp decent on the line on factors 8 and 9. Therefore, seven factors were retained (Stevens, p. 366).

Figure 4 Scree Plot of the Factor Analysis



- Factor 1: Professional Advancement
- Factor 2: External Expectations
- Factor 3: Family Togetherness
- Factor 4: Social Stimulation
- Factor 5: Cognitive Interest
- Factor 6: Preparation for Educational Advancement
- Factor 7: Social contact

Table 3 Correlations between Items and Factors

| Items   | Factors |      |      |      |      |      |      |
|---|---------|------|------|------|------|------|------|
|   | PA      | EE   | FT   | SS   | CI   | PEA  | SC   |
|   | 1       | 2    | 3    | 4    | 5    | 6    | 7    |
| 1.To improve language skills                            | ---     | ---  | ---  | ---  | .816 | ---  | ---  |
| 2.To become acquainted with friendly people             | ---     | ---  | ---  | .504 | .476 | ---  | ---  |
| 3.To make up for a narrow previous education            | ---     | ---  | ---  | ---  | .774 | ---  | ---  |
| 4.To secure professional advancement                    | .540    | ---  | ---  | ---  | ---  | ---  | ---  |
| 5.To get ready for changes in my family                 | ---     | .382 | .402 | ---  | ---  | ---  | .453 |
| 6.To overcome the frustration of day to day living      | ---     | ---  | .501 | ---  | ---  | ---  | ---  |
| 7.To get something meaningful out of life               | ---     | ---  | ---  | ---  | ---  | ---  | ---  |
| 8.To speak better                                       | ---     | ---  | ---  | ---  | ---  | ---  | ---  |
| 9.To have a good time with friends                      | ---     | .366 | ---  | .658 | ---  | ---  | ---  |
| 10.To get education I missed earlier in life            | ---     | ---  | ---  | ---  | ---  | ---  | ---  |
| 11.To achieve an occupational goal                      | .640    | ---  | ---  | ---  | ---  | ---  | ---  |
| 12.To share a common interest with my spouse or friend. | ---     | ---  | ---  | ---  | ---  | ---  | ---  |
| 13.To get away from loneliness                          | .379    | ---  | ---  | ---  | ---  | ---  | .375 |
| 14.To acquire general knowledge                         | ---     | ---  | ---  | ---  | ---  | ---  | ---  |
| 15.To learn another language                            | ---     | ---  | ---  | ---  | ---  | .520 | ---  |
| 16.To meet different people                             | ---     | ---  | ---  | .709 | ---  | ---  | ---  |
| 17.To acquire knowledge with educational courses        | ---     | ---  | ---  | ---  | ---  | .510 | ---  |
| 18.To prepare for getting a job                         | .626    | ---  | ---  | ---  | ---  | ---  | ---  |
| 19.To keep up with others in my family                  | ---     | ---  | .760 | ---  | ---  | ---  | ---  |
| 20.To get relief from boredom                           | -.415   | ---  | .642 | ---  | ---  | ---  | ---  |
| 21.To learn just for the joy of learning                | ---     | ---  | .502 | ---  | ---  | ---  | ---  |

| Items   | Factors |      |     |      |      |      |      |
|---|---------|------|-----|------|------|------|------|
|   | PA      | EE   | FT  | SS   | CI   | PEA  | SC   |
|   | 1       | 2    | 3   | 4    | 5    | 6    | 7    |
| 22.To write better                                  | ---     | .413 | --- | ---  | .498 | ---  | ---  |
| 23.To make friends                                  | ---     | .511 | --- | .551 | ---  | ---  | ---  |
| 24.To prepare for further education                 | .390    | ---  | --- | ---  | ---  | .505 | ---  |
| 25.To give me higher status in my job               | .647    | ---  | --- | ---  | ---  | ---  | ---  |
| 26.To keep up with my children                      | ---     | ---  | --- | ---  | ---  | ---  | .643 |
| 27.To get a break in the routine of home or work    | -.389   | ---  | --- | ---  | ---  | ---  | .365 |
| 28.To satisfy an inquiring mind                     | ---     | ---  | --- | ---  | ---  | ---  | ---  |
| 29.To help underst what people are saying & writing | ---     | ---  | --- | ---  | ---  | ---  | ---  |
| 30.To make new friends                              | ---     | ---  | --- | .577 | ---  | ---  | ---  |
| 31.To do courses needed for another school/coll     | ---     | ---  | --- | ---  | ---  | .659 | --   |
| 32.To get a better job                              | .744    | ---  | --- | ---  | ---  | ---  | ---  |
| 33.To answer questions asked by my children         | ---     | .800 | --- | ---  | ---  | --   | ---  |
| 34.To do something rather than nothing              | ---     | .555 | --- | ---  | ---  | ---  | ---  |
| 35.To seek knowledge for its own sake               | ---     | ---  | --- | ---  | ---  | ---  | ---  |
| 36.To learn about the usual customs here            | ---     | ---  | --- | ---  | ---  | ---  | .464 |
| 37.To meet new people                               | ---     | ---  | --- | .499 | ---  | ---  | .401 |
| 38.To get entrance into another school or college   | ---     | ---  | --- | ---  | ---  | .662 | ---  |
| 39.To increase my job competence                    | .674    | ---  | --- | ---  | ---  | ---  | ---  |
| 40.To help me talk with my children                 | ---     | .782 | --- | ---  | ---  | ---  | ---  |
| 41.To escape an unhappy relationship                | ---     | .642 | --- | ---  | ---  | ---  | ---  |
| 42. To expand my mind                               | ---     | ---  | --- | ---  | ---  | ---  | ---  |

Table 4 shows the frequency and percent of participants' adult educational activities. As can be seen in this table, credential and work-related activities made up over 50% of the sample.

Table 4 Frequency and Percent of Educational Activity

| Activity              | Frequency | Percent |
|-----------------------|-----------|---------|
| ABE                   | 33        | 16.0    |
| Credential            | 81        | 39.3    |
| Work-related          | 50        | 24.3    |
| Personal              | 21        | 10.2    |
| No post-HS activities | 21        | 10.2    |

MANOVA on Factors by Age

Of the Logan County population, 12.3% are elderly (65 years and older), 57.9% are between the ages of 20 and 64, and 29.8 % are under the age of 20 years (U.S. Bureau of the Census, 2000). In this study, over half the participants (n=109, 52.9%) were in the 18-24 years of age range, while 22.3% were between the ages of 25-34, 11.7% were between the ages of 35-44, 9.7% were between the ages of 45-54, and 2.9% endorsed the age group of 55-64.



A MANOVA was conducted on the seven factors by age, yielding a statistically significant result,  $F(28, 610) = 2.27, p < .001$  (Eta=.09, power = 1.00). Table 5 shows the frequency and percent of participants by age. Most participants were in the 18-24 year old age range. Table 6 presents a univariate ANOVAs, with factors 1, 3, and 6 differing significantly by age. Eta—the effect size ranging from 0.0 to 1.0—indicates the importance of the ANOVA static; these are small effect sizes. Power indicates the probability of finding a significant result if significant result is to be found; the power in these ANOVAs are moderate to strong. Scheffe post-hoc analyses show that 18-24 and 25-34 year old groups differed from 55-64 year olds in Factor 1. There were no significant differences between groups in Factors 3 or 6 at the  $p = .05$  level. Table 7 shows the means and standard deviations of each factor by age. Only for the first factor, Professional Advancement, was there a difference between those under 34 and those 55-64 years of age.

Table 5 Frequency and Percent of Age of Participants

| Age range       | Frequency | Percent |
|-----------------|-----------|---------|
| 18-24           | 109       | 52.9    |
| 25-34           | 46        | 22.3    |
| 35-44           | 24        | 11.7    |
| 45-54           | 20        | 9.7     |
| 55-64           | 6         | 2.9     |
| Did not respond | 1         | 0.5     |

Table 6 ANOVAs on Seven Factors by Age

| Factor | df | F      | $\eta$ | Power |
|--------|----|--------|--------|-------|
| PA     | 4  | 4.21** | .09    | .92   |
| EE     | 4  | 1.56   | .03    | .48   |
| FT     | 4  | 2.77*  | .06    | .75   |
| SS     | 4  | 1.37   | .03    | .42   |
| CI     | 4  | 1.09   | .02    | .34   |
| PEA    | 4  | 3.64** | .08    | .87   |
| SC     | 4  | 1.23   | .03    | .38   |

Note: \*\*p < .01

Table 7 Means and Standard Deviations on Factors by Age Groups

| Factor          | Age Group  |            |            |            |             |
|-----------------|------------|------------|------------|------------|-------------|
|                 | 18-24      | 25-34      | 35-44      | 45-54      | 55-64       |
| PA <sup>a</sup> | 1.57 (.53) | 1.56 (.70) | 1.25 (.70) | 1.39 (.80) | .63 (.79)   |
| EE              | 1.99 (.77) | 1.94 (.63) | 2.29 (.72) | 1.88 (.59) | 2.38 (.77)  |
| FT              | 1.85 (.77) | 1.87 (.62) | 2.10 (.64) | 2.13 (.81) | 2.73 (1.19) |
| SS              | 2.08 (.92) | 1.87 (.63) | 1.99 (.71) | 1.92 (.80) | 2.64 (1.07) |
| CI              | 2.14 (.77) | 2.19 (.72) | 2.26 (.77) | 2.54 (.82) | 2.29 (1.03) |
| PEA             | 2.50 (.66) | 2.55 (.78) | 2.08 (.64) | 2.08 (.71) | 1.97 (.89)  |
| SC              | 1.72 (.66) | 1.86 (.86) | 1.90 (.54) | 2.06 (.92) | 2.11 (.94)  |

Note: <sup>a</sup> 18-24 and 25-34 year old group means differed from 55-64 year old group means.

### MANOVA on Factors by Gender

According to the U.S. Census (2000), female persons make up 50.6% of the Logan County population, with 49.4% being reported as male. Of those who participated in the study, 84 (40.8%) were male, 113 (54.9%) were female, and 9 (4.4%) did not indicate. A MANOVA was conducted on the seven factors by gender, yielding a statistically non-significant result,  $F(7, 164) = 0.44$ , *ns* ( $\eta^2 = .02$ , power = .19). Table 8 presents a univariate ANOVAs, where no factor score differed by gender, and presents the effect size and the power associated with the ANOVA. The non-significant F's in Table 8 indicate that mens' and womens' factor scores could have differed by chance. Table 9 presents the means and standard deviations of the seven factors by gender; again, the mean differences by gender could have occurred by chance.

Table 8 ANOVAs on Seven Factors by Gender

---

| Factor | df  | F   | $\eta^2$ | Power |
|--------|-----|-----|----------|-------|
| PA     | 1   | .01 | .00      | .05   |
| EE     | 1   | .30 | .00      | .08   |
| FT     | 1   | .01 | .00      | .05   |
| SS     | 1   | .89 | .01      | .16   |
| CI     | 1   | .05 | .00      | .06   |
| PEA    | 1   | .37 | .00      | .10   |
| SC     | 1   | .15 | .00      | .07   |
| Error  | 170 |     |          |       |

---

Note: \* $p < .05$ , \*\* $p < .01$

Table 9 Means and Standard Deviations on Factors by Gender

| Gender<br>Factor | Males      | Females    |
|------------------|------------|------------|
| PA               | 1.49 (.61) | 1.51 (.68) |
| EE               | 2.05 (.79) | 1.99 (.70) |
| FT               | 1.92 (.82) | 1.91 (.66) |
| SS               | 2.08 (.95) | 1.96 (.76) |
| CI               | 2.18 (.73) | 2.20 (.80) |
| PEA              | 2.36 (.68) | 2.43 (.76) |
| SC               | 1.77 (.73) | 1.82 (.71) |

### Descriptive Statistical Composites

The *mean* of a data set is the mathematical average of the values in the set, obtained by summing the values and dividing that sum by the number of values. When a researcher summarizes a data set in a frequency distribution, she is approximating the data set by rounding each value in a given class to the class mark. With this in mind, it is natural to define the mean of a frequency distribution by

$$\mu = \frac{1}{n} \sum_{i=1}^n f_i x_i = \sum_{i=1}^n p_i x_i$$

The mean is a measure of the *center* of the distribution. As the algebraic formula shows, the mean is a *weighted average* of the class marks, with the relative frequencies as the

weight factors. We can compare the distribution to a mass distribution, by thinking of the class marks as point masses on a wire (the  $x$ -axis) and the relative frequencies as the masses of these points. In this analogy, the mean is identified as the center - the balance point of the wire.

The *variance* of a data set is the mathematical average of the squared differences between the values and the mean. Again, when a researcher summarizes a data set in a frequency distribution, she is approximating the data set by rounding each value in a given class to the class mark. Thus, the variance of a frequency distribution is given by

$$\sigma^2 = \frac{1}{n} \sum_{i=1}^n f_i (x_i - \mu)^2 = \sum_{i=1}^n p_i (x_i - \mu)^2$$

The *standard deviation* is the square root of the variance:  $\sigma = \sqrt{\sigma^2}$

The variance and the standard deviation are both measures of the spread of the distribution about the mean (Gay, 2000).

Table 10 Descriptive Statistics

| Descriptive Statistics |     |         |         |         |                |
|------------------------|-----|---------|---------|---------|----------------|
|                        | N   | Minimum | Maximum | Mean    | Std. Deviation |
| F1                     | 185 | 6.00    | 24.00   | 12.7622 | 4.11224        |
| F2                     | 184 | 6.00    | 24.00   | 11.9946 | 4.41742        |
| F3                     | 182 | 6.00    | 21.00   | 14.1813 | 3.03116        |
| F4                     | 184 | 6.00    | 24.00   | 17.7337 | 4.18425        |
| F5                     | 183 | 6.00    | 20.00   | 11.9290 | 3.16234        |
| F6                     | 185 | 6.00    | 21.00   | 11.0649 | 4.22031        |
| F7                     | 185 | 6.00    | 24.00   | 15.2973 | 3.28588        |
| Valid N (listwise)     | 181 |         |         |         |                |

### Age and Motivation for Participation

In order to determine the degree to which age may influence motivation for participation in adult education, statistical analysis was conducted. The findings of the study indicate that the influence of age on motivation was significant at the .05 level of significance for the degree to which study participants were motivated to participate in adult education in order to:

| <b>Item</b>                                     | <b>Factor</b>         | <b>F</b> | <b>df</b> | <b>p</b> |
|---|-----------------------|----------|-----------|----------|
| Improve language skills                         | Cognitive Interest    | 5.967    | 4         | .000     |
| Speak better                                    | External Expectations | 2.576    | 4         | .039     |
| Share a common interest with a spouse or friend | Social Stimulation    | 2.9631   | 4         | .021     |
| Learn another language                          | Educational Adv.      | 6.212    | 4         | .000     |
| Prepare for getting a job                       | Professional Adv.     | 3.937    | 4         | .004     |
| Write better                                    | External Expectations | 4.809    | 4         | .001     |
| Get a better job                                | Professional Adv.     | 4.809    | 4         | .001     |

As the table above indicates, the participants in this study indicated a strong desire to participate in adult educational activities for the main purposes of professional advancement, external expectations and educational advancement. Some of the participants also indicated a desire to seek social stimulation (F=2.9631) and to satisfy cognitive interests (F=5.967).

When examining the within groups descriptive statistics associated with each of the EPS items in which age was found to be significant, those study participants who

reported that their motivation to improve language skills had greater influence on their participation in adult education activities were more likely to be in the 25-34 year old age group (n = 66, M = 3.0455) as compared to those ages 18-24 (n = 27, M = 2.8889), 35-44 (n = 27, M = 2.2162) and 55-64 (n = 16, M = 1.9375). When further examining influence of age group on motivation to participate in adult education in order to speak better, study participants ages 18-24 (n = 27, M = 2.7778) were more likely to report greater influence than those ages 25-34 (n = 66, M = 2.5909), 35-44 (n = 37, M = 2.2162) and 45-54 (n = 35, M = 2.1429). ). As to differences between age groups regarding the motivation to share a common interest with a spouse or friend, study participants between the ages of 55-64 (n = 16, M = 2.7500) as compared to those ages 18-24 (n = 27, M = 1.7037, 25-34 (n = 66, M = 1.8182), 35-44 (n = 37, M = 1.8108) and 45-54 (n = 35, M = 1.6288) were more likely to report greater influence of this factor in their involvement in adult education activities. For those who reported that the opportunity to learn another language was a strong influence in their participation in adult education activities, study participants in the 18-24 age group (n = 27, M = 2.4815) reported this factor was a greater influence than those in age groups 25-34 (n = 66, M = 1.7879), 35-44 (n = 37, M = 1.4324), 45-54 (n = 35, M = 1.8125) and 55-64 (n = 1.81728). Similarly, study participants between the ages of 18-24 (n= 27, M = 3.6296) reported that they were more strongly influenced to participate in adult education in order to prepare for getting a job than those in age groups 25-34 (n = 66, M = 3.1212), 35-44 (n = 37, M = 2.9189), 45-54 (n = 35, M = 2.8857) and 55-64 (n = 16, M = 2.2500). As well, study participants in the 18-24 age group (n = 27, M = 2.8889) reported that they were more strongly motivated to

participate in adult education for the purposes of learning to write better than those in age groups 25-34 (n = 65, M = 2.7077), 35-44 (n = 37, M = 2.3243), 45-54 (n = 35, M = 2.2571) and 55-64 (n = 16, M = 1.5000). Finally, when questioned as to the degree to which they were motivated by the desire to get a better job, study participants in the age group 25-34 (n = 65, M = 3.1846) reported this as a greater influence than those in age groups 18-24 (n = 27, M = 3.1111), 35-44 (n = 37, M = 2.9189), 45-54 (n = 35, M = 2.9429) and 55-64 (n = 16, M = 2.3125).

| Item  | Factor                   | Means  |        |        |        |         |
|---|--------------------------|--------|--------|--------|--------|---------|
|   |                          | 18-24  | 25-34  | 35-44  | 45-54  | 55-64   |
| Improve language skills                         | Cognitive Interest       | 2.8889 | 3.0455 | 2.2162 | -----  | 1.9375  |
| Speak better                                    | External Expectations    | 2.7778 | 2.5909 | 2.2162 | 2.1429 | -----   |
| Share a common interest with a spouse or friend | Social Stimulation       | 1.7037 | 1.8182 | 1.8108 | 1.6288 | 2.7500  |
| Learn another language                          | Educational Adv.         | 2.4815 | 1.7879 | 1.4324 | 1.8125 | 1.81728 |
| Prepare for getting a job                       | Professional Adv.        | 3.6296 | 3.1212 | 2.9189 | 2.8857 | 2.2500  |
| Write better                                    | External Expectations    | 2.8889 | 2.7077 | 2.3243 | 2.2571 | 1.5000  |
| Get a better job                                | Professional Advancement | 3.1111 | 3.1846 | 2.9189 | 2.9429 | 2.3125  |

### Gender and Motivation for Participation

In order to determine the influence of gender on motivation for participating in adult education, statistical analysis was conducted. The findings of the study indicate that the influence of gender on motivation was significant at the .05 level of significance for the degree to which study participants were motivated to participate in adult education in order to: secure professional advancement (F = 10.003, df = 1, p = .002); overcome the frustration of day to day living (F = 11.302, df = 1, p = .003); achieve an occupational



goal (  $F = 6.357$ ,  $df = 1$ ,  $p = .015$ ); acquire general knowledge ( $F = 6.004$ ,  $df = 1$ ,  $p = .015$ ); get away from loneliness ( $F = 4.688$ ,  $df = 1$ ,  $p = .044$ ); learn another language ( $F = 6.870$ ,  $df = 1$ ,  $p = .015$ ); acquire knowledge to help with other educational courses ( $F = 5.659$ ;  $df = 1$ ,  $p = .045$ ); prepare for getting a job ( $F = 5.864$ ,  $df = 1$ ,  $p = .041$ ); get relief from boredom ( $F = 6.901$ ,  $df = 1$ ,  $p = .020$ ); prepare for further education ( $F = 28.738$ ,  $df = 1$ ,  $p = .003$ ); meet new people ( $F = 4.038$ ,  $df = 1$ ,  $p = .022$ ); and get entrance to another school or college( $F = 15.009$ ,  $df = 1$ ,  $p = .001$ ).

| Item                            | Factor                  | F      | df | P    |
|---------------------------------|-------------------------|--------|----|------|
| Secure professional advancement | Professional Adv.       | 10.003 | 1  | .002 |
| Overcome frustration            | Social Contact          | 11.302 | 1  | .003 |
| Occupational goal               | Professional Adv.       | 6.357  | 1  | .015 |
| General knowledge               | Cognitive Interest      | 6.004  | 1  | .015 |
| Get away from loneliness        | Social Contact          | 4.688  | 1  | .044 |
| Learn another language          | Prepare for Further Ed. | 6.870  | 1  | .015 |
| Help with other courses         | Prepare for Further Ed. | 5.659  | 1  | .045 |
| Prepare for getting a job       | Professional Adv.       | 5.864  | 1  | .041 |
| Relief from boredom             | Social Contact          | 6.901  | 1  | .020 |
| Prepare for further education   | Prepare for Further Ed. | 28.738 | 1  | .003 |
| Meet new people                 | Social Contact          | 4.038  | 1  | .022 |
| Entrance to another school      | Prepare for Further Ed. | 15.009 | 1  | .001 |

When examining the within groups descriptive statistics associated with each of the EPS items in which gender was found to be significant, the following differences on the basis of gender were evident: 1) males were more likely to report stronger influence of securing professional advancement; 2) females were more likely to report stronger

influence associated with overcoming the frustration of day to day living; 3) males were more likely to report stronger influence associated with achieving an occupational goal; 4) males were more likely to report stronger influence in relation to acquiring general knowledge; 5) females were more likely to report greater influence associated with getting away from loneliness; 6) males were more likely to report greater influence associated with learning another language; 7) males were more likely to report greater influence of acquiring knowledge to help with other educational courses; 8) males were more likely to report greater influence of preparation for getting a job; 9) females were more likely to report greater influence of getting relief from boredom; 10) males were more likely to report greater influence of meeting new people; and, 11) males were more likely to report greater influence with getting entrance to another school or college.

| <b>Item</b>                   | <b>Factor</b>                 | <b>Males</b> | <b>Females</b> |
|-------------------------------|-------------------------------|--------------|----------------|
| Secure professional advance   | Professional Advancement      | *            |                |
| Overcome frustration          | Social Contact                |              | *              |
| Occupational goal             | Professional Advancement      | *            |                |
| General knowledge             | Cognitive Interest            | *            |                |
| Get away from loneliness      | Social Contact                |              | *              |
| Learn another language        | Prepare for Further Education | *            |                |
| Help with other courses       | Prepare for Further Education | *            |                |
| Prepare for getting a job     | Professional Advancement      | *            |                |
| Relief from boredom           | Social Contact                |              | *              |
| Prepare for further education | Prepare for Further Education | *            |                |
| Meet new people               | Social Contact                | *            |                |
| Entrance to another school    | Prepare for Further Education | *            |                |

\* indicates the stronger influence on that gender group

### Role of Ethnicity

Table 11 shows the frequency and percent of Ethnicity in participation in adult educational activities in Logan County. Logan County possesses a unique set of demographics and social status. Defined by the U.S. Bureau of the Census (2000) as an urban cluster, Logan County is 81.6% Caucasian, 11.0% African American and 2.9% American Indian, with Asian persons and other races making up the difference of 4.5% of the population. Given the demographics of Logan County, it is not surprising to see that the largest group that participates is the Caucasian group (58.7%) and the smallest percent of participation is the American Indian ethnic group (9.7%). Approximately eighteen percent (18.4%) endorsed African American ethnicity.

Table 11 Frequency and Percent of Ethnicity

| Ethnicity        | Frequency | Percent |
|------------------|-----------|---------|
| African American | 38        | 18.4    |
| American Indian  | 20        | 9.7     |
| Caucasian        | 121       | 58.7    |
| Other            | 26        | 12.7    |
| Did not respond  | 1         | 0.5     |

## CHAPTER 5

### SUMMARY AND RECOMMENDATIONS

#### Summary

The study of adult education is still relatively new to academia. Even though the literature on participation cannot be separated completely from other disciplines, such as psychology and sociology, it addresses a particular problem in adult education. The traditional voluntary nature of adult education placed a premium on understanding why adults choose, from among competing activities and roles, to assume the student or learner role and engage in educational activities (Peters & Jarvis, 1991). Implications of this question are found in both theory and practice. The relationship between theory and practice has been a topic of discourse in adult education for decades. The growing concern about the appropriate relationship between study and practice strongly suggest that new conceptualizations are needed to forge an effective role for study in the improvement of practice. One way to form these new conceptualizations is to properly locate the field of study with respect to practice (Peters & Jarvis, 1991).

This study utilized a descriptive study design to identify the sources of motivation of adults to participate in adult education activities. A survey was mailed to each subject, randomly selected, asking them to complete the survey, along with a confidential information form that included a blank line to identify individual age, race, gender and activity that was applicable.

### Conclusions Related to Factors

This study identified a seven-factor solution as being representative of the factors that motivate adults to participate in adult educational activities in the chosen population.

These factors include:

Factor 1: Professional Advancement

Factor 2: External Expectations

Factor 3: Family Togetherness

Factor 4: Social Stimulation

Factor 5: Cognitive Interest

Factor 6: Preparation for Educational Advancement

Factor 7: Social Contact

These seven factors are consistent with Boshier's seven factors.

### Conclusions Related to Age

Of the 206 participants who were surveyed, 52.9% were between the ages of 18-24, while 22.3% were between the ages of 25-34, 11.7% were between the ages of 35-44, 9.7% were between the ages of 45-54, and 2.9% endorsed the age group of 55-64. In addition, factors 1, 3 and 6 (Professional Advancement, Family Togetherness and Preparation for Educational Advancement) differed significantly by age. Adults engage in continual learning for various reasons. The same can be said for the lack of participation in continual learning. In applying motivational strategies with adult learners, the adults' personalities, styles of interaction, backgrounds and energy levels

must be considered. While adults cope with a myriad of physical and emotional fluctuations in life, they are still expected to be motivated learners. It is not difficult to understand why academic motivation is not at the top of their lists. Often times, the educators of these adults may hold the key to the techniques that foster motivation. Adult must be given choices in their education and the topics that are pertinent to their lives.

This is a findings-grounded conclusion that the life span development theory of Havinghurst (1972) is still a powerful indicator of who participates in adult educational activities and for what reasons. Levinson (1986) argues that the life structure of adults changes and evolves over the different periods of an adult's life span. Participation in adult educational activities in this sample tightly fits life span development. According to Rybash, Rooden, & Hoyer (1995), the early adulthood stage in the adult's life span, which spans the ages of 22 to 40, is comprised of attaining professional advancement and the realization of one's major life goals. To further support the conclusions of this study, Levinson also asserts that the middle adulthood and late adult transition stages in the adult's life span (from ages 40 to 65) are comprised of less attention to professional advancement and more attention to family togetherness and social contact.

There is no question that we are shaped by our experiences; developmental and life-phase theorists all take that as a given. Less clear is how the shaping actually occurs (Merriam & Clark, 1991). Our experiences obviously affect how our attitudes and perceptions about learning and life change, as a whole. Perry (1970) makes it clear that how people think about the world shapes how we act in it. An experience must do more than occur in an adult learner's life to make an impact on his or her choices to participate

in adult educational activities. The experience must cause a change in the attitude and perception of the adult learner. The outcome of this process is a changed conceptual perspective (Usher, 1985).

As an adult learner ages, his or her attitude about the environment in which he or she lives may change. A byproduct of these changes may be how he or she sees adult learning opportunities. Just as Aslanian and Brickell (1980) sought to test the hypothesis that life transitions motivate adults to seek out learning experiences, Boshier's seven factors clearly identify that life events play a significant role in how adult learners' attitudes change and can radically redirect an adult learner's life course.

In the earlier versions of the life events framework, it was suggested that major life events produce taxing circumstances for individuals, forcing them to change their perceptions and personalities. Later versions of the framework emphasize the factors that mediate the influence of life events on adult development – health, intelligence, personality, family supports, income, and so on (Rybash, Rooden & Hoyer, 1995). While some individuals see these life events as stressful and negative, others perceive them as challenges and therefore seek to participate in activities that help them to overcome the effects of these events.

The study of adult participation must be studied longitudinally. While each individual is unique, there is a common life event framework that most people follow without even knowing it. Although each adult's history may be different, each society has a set of normative life events that result in most people following a relatively orderly progression through their life (Kimmel, 1990). With the experiences from these

normative life events, an adult's expectations and attitudes change. "For any social group it can easily be demonstrated that norms and actual occurrences are closely related. Age norms and age expectations operate as a system of social controls, as prods and brakes upon behavior, in some instances hastening an event, in others, delaying it" (Neugarten, 1976, p.16).

Another factor that may contribute to the large number of younger adults in Logan County (ages 18-24 and 25-34) indicating a strong desire to participate in adult educational activities for the sake of professional advancement is the Guthrie Job Corps. The Guthrie Job Corps Center serves approximately 650 young men and women ages 16 – 24 in Logan County. Using the skills training systems, Job Corps offers residential, vocational, and academic education plus behavior training, stipend, and basic medical care to motivate young adults from poverty stricken areas and backgrounds to continue their education. This figure represents approximately 4% of the Logan County population; therefore, this center being located in Logan County may have affected the study findings.

#### Conclusions Related to Gender

There is a fairly equal representation of genders in Logan County with 50.6% endorsing female and 49.4% endorsing male (U.S. Bureau of the Census, 2000). In this study, there were 84 (40.8%) male participants and 113 (54.9%) female participants. An important finding in this study was the lack of gender differences in motivation to participate in adult educational activities. To that end, we found no



evidence that gender plays a significant role in motivation to participate in adult educational activities in this sample. This lack of a difference in participation by gender leads us to conclude that career now takes precedence over family in both gender groups. Several decades ago, Johnstone and Rivera (1965) found that at all ages, men were more concerned with vocational goals while women enrolled “relatively more often in response to home and family life and leisure time interests” (p. 11). These findings were congruent with developmental psychology and led to elaborations of program planning theory founded on the notion that men and women of different ages have different reasons for enrolling in adult education classes (Boshier, 1985). However, unlike the 1950s and 1960s when women married young, had children and then went to work when the children became of age to go to school, today’s women are more career-oriented and focused on educational attainment to serve their career goals. In the 1980s and 1990s, women went to college, built their careers, and then, perhaps in their 30’s took a brief break from career to have children at ages 30 or 35 (KET, 1992). Today, more women are working on careers, at the expense of family. Almost 18 years ago, Hodgkinson (1986) noted this change in the profile of the adult learner and asserted, “the majority are white, including increasing numbers of children born to women over 30 who are having their first child. The number of such older mothers has almost tripled since 1970, going from 57,000 to 165,000 in 1984. Almost half of these women are college graduates, many of them planning to take a year or two off before returning to their career positions” (p. 8). This solidifies a change in the pattern of women in adult educational activities.

With more women in the workforce, to survive in this economic system, there is more time spent by women on education and career and less time on family.

### Conclusions Related to Ethnicity

Logan County possesses a unique set of demographics and social status. Defined by the U.S. Bureau of the Census (2000) as an urban cluster, Logan County is 81.6% Caucasian, 11.0% African American and 2.9% American Indian, with Asian persons and other races making up the difference of 4.5% of the population. Given the demographics of Logan County, it is not surprising to see that the largest group that participates is the Caucasian group (58.7%) and the smallest percent of participation is the American Indian ethnic group (9.7%). Approximately eighteen percent (18.4%) of the participants endorsed African American ethnicity and 12.6% endorsed “other ethnic groups”.

These findings may not indicate a difference in factors, but it is an anomaly in terms of county census data. A question as to why there are more African Americans and American Indians participating in adult educational activities than the county population would warrant might be raised. In addition, the large percentage of adults who endorsed “other ethnic groups” (12.6%) indicates a high participation rate in this ethnic segment in Logan County. Therefore, the findings in this study are congruent with national participation patterns concerning ethnicity and participation. According to the U. S. Department of Education (2000), the general trend in adult education participants’ ethnicity, nationally, has seen a decline in Caucasian (non-Hispanic) and African American adults from 1979 to 1993, and an increase in Hispanic and Asian participants.

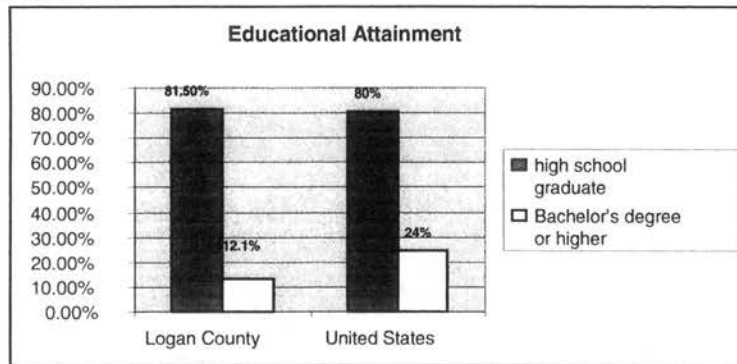
White participants dropped 10 percent from 47 percent in 1979 to 36 percent in 1993, while Black enrollments dropped by 5 percent, from 23 percent in 1979 to 18 percent in 1993. During this same time period, Hispanic enrollments rose from 21 to 31 percent, an increase of 10 percent, and Asian enrollments doubled from 7 percent in 1979 to 14 percent in 1993. These changes paralleled the changes in enrollments in ABE, ASE and ESL.

Conclusions Unrelated to Research Questions:  
Educational Attainment in Logan County compared to the United States

Table 12 shows a comparison between educational attainment in Logan County and the United States. There is an obvious similarity in high school completion, with both populations averaging 81%. Educational attainment of a Bachelor's degree in the United States is approximately 24%, while 12.1% in Logan County. This figure is significantly lower than what the results of this study show, with 39% of all participants endorsing a credentials program. One difference may include those participants who participated in post-secondary credentials programs to receive only an Associate's degree.

Again, another factor that may contribute to the large number of younger adults in Logan County (ages 18-24 and 25-34) indicating high school completion is the Guthrie Job Corps Center. Guthrie Job Corps Center serves 650 young men and women ages 16 – 24 in Logan County and requires a high school diploma or equivalent before admission.

Table 12 Educational Attainment



Source, U.S. Bureau of the Census, 2000

### Recommendations for Practice

Scientifically derived knowledge is seen from the outset as different from and better than the knowledge that arises through experience, and therefore, should be used to improve practice (Peters & Jarvis, 1991). The ideal relationship between theory and practice is synergetic because “theory without practice leads to empty idealism, and action without philosophical reflection is mindless activism” (Elias & Merriam, 1995, p. 4). Participation is one of the more thoroughly studied areas in adult education. The information that is available lends efforts to link the many pieces of adult education together. Although there have been numerous studies of participation, there is a strong need to continue to research participation patterns and comparisons. Future study will allow researchers to continue the attempt to map the interaction of variables that determine participation in adult education activities.

In order to provide necessary and productive adult education activities, providers of adult education need to access demographic data of their respective service areas. According to the results of this research study, if the average age of an educational

service area is high (45 and over), one type of programming would be preferred over other possible programming types. Programs that focus on travel, social activities, and the arts would be more appropriate to this age group. If the average age is low (18 to 44), career development and work-related programming would be most appropriate.

Finally, educators of adult learners have tremendous opportunities to provide a variety of educational opportunities that will challenge and enhance an adult learner's capacity to use his or her life attitude changes to better understand his or her own choices. The greatest benefit to studies like this is the holistic approach it provides. Because adult learners are connected to so many different parts of adult life, studies like this attempt to show a linkage between the different arenas.

#### Recommendations for Further Research

In order to better understand the significance of internal and external factors on an adult learner's decision to participate in adult education activities, further research is necessary. The results of this study indicate that there are significant differences between age groups with respect to participation in adult education activities. Demographics, the global economy and technology are three sources that affect adult education. In addition the American population is made up of more older adults than ever before (Merriam & Caffarella, 1999). These three sources provide great opportunity for research with respect to age and participation in adult educational activities. The findings in this study present opportunities to identify patterns of motivation and participation on an individual and group basis in varying geographic locations. Although gender was found to be

insignificant in this study, given the large number of women working outside the home and participating in formal higher education, further research might indicate if there is a difference in sources of motivation to participate in adult education activities of women living in urban cluster areas and other areas of the country. Further exploration into possible geographic variations in the participation of the adult population in adult educational activities could provide some preliminary analyses that may suggest possible explanations for any geographic variations.

Because the data in this survey are the result of sampling, all of the estimates of participation rates in this study are subject to random sampling error. Because of that error, many of the observed differences in participation rates may be attributable, at least in part, to random sampling error rather than to any real differences in participation rates. To that end, a larger sample may produce more generalizable results. In addition, using a more diverse sample, it would be interesting to see if such associations are either socioeconomic or cohort specific (Merriam & Clark, 1991).

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APPENDIX A  
INSTITUTIONAL REVIEW BOARD  
APPROVAL FORM

Oklahoma State University  
Institutional Review Board

Protocol Expires: 3/26/03

Date: Wednesday, March 27, 2002

IRB Application No ED0292

Proposal Title: A DESCRIPTIVE STUDY OF AN URBAN CLUSTER'S EDUCATION PARTICIPATION

Principal  
Investigator(s):

Debbi Moyers-Ham  
10 W. Johnson Drive  
Stillwater, OK 73044

Robert Nolan  
210 Willard  
Stillwater, OK 74078

Reviewed and  
Processed as: Exempt

Approval Status Recommended by Reviewer(s): Approved

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Dear PI:

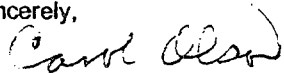
Your IRB application referenced above has been approved for one calendar year. Please make note of the expiration date indicated above. It is the judgment of the reviewers that the rights and welfare of individuals who may be asked to participate in this study will be respected, and that the research will be conducted in a manner consistent with the IRB requirements as outlined in section 45 CFR 46.

As Principal Investigator, it is your responsibility to do the following:

1. Conduct this study exactly as it has been approved. Any modifications to the research protocol must be submitted with the appropriate signatures for IRB approval.
2. Submit a request for continuation if the study extends beyond the approval period of one calendar year. This continuation must receive IRB review and approval before the research can continue.
3. Report any adverse events to the IRB Chair promptly. Adverse events are those which are unanticipated and impact the subjects during the course of this research; and
4. Notify the IRB office in writing when your research project is complete.

Please note that approved projects are subject to monitoring by the IRB. If you have questions about the IRB procedures or need any assistance from the Board, please contact Sharon Bacher, the Executive Secretary to the IRB, in 203 Whitehurst (phone: 405-744-5700, sbacher@okstate.edu).

Sincerely,



Carol Olson, Chair  
Institutional Review Board

APPENDIX B

SAMPLE COVER LETTER/ CONSENT FORM  
CONFIDENTIAL INFORMATION SHEET

November 15, 2002

Dear Logan County Resident,

This survey is being conducted through Oklahoma State University to determine participation patterns in adult education activities in your county. The title of the research study is **A DESCRIPTIVE STUDY OF AN URBAN CLUSTER'S EDUCATION PARTICIPATION PROFILE -LOGAN COUNTY**. It focuses on Logan County adults between the ages of 18 and 64. This research will assist educators and administrators in planning and implementing programs that will help meet the academic needs of adults in Logan County.

Your name has been randomly selected to participate in this study. Your responses to this survey will remain completely confidential, and no names will be included in the research results. Please understand that participation is completely voluntary and you are free not to participate. If you do choose to participate, please understand that you are free to withdraw your consent and end your participation in this study at any time.

If you have any questions regarding this research study, please feel free to call me at (405) 586-9233 or Dr. Robert Nolan at (405) 744-9190 or Sharon Bacher at (405) 744-5700.

Please complete the enclosed questionnaire(s) and return to me by **August 15, 2003** in the enclosed, postage-paid envelope. If there are two adults in your household, please have each adult fill out a survey. Completion of the survey form will confirm your consent to participate. Once an appropriate number of completed surveys have been collected, the data will be analyzed. The findings will be available in Oklahoma State University's Edmond Lowe Library and the School of Educational Studies sometime after January 2003.

I hope that you will assist me in my efforts to effectively complete this research to the benefit of Logan County residents within the time limit available. Thank you for your cooperation.

Sincerely,

Kelly L. Moyers, MBA, CHE

**PART I - Information Sheet**

(1) Please place a check mark by the definition that most closely describes your participation in education activities in the last 12 months:

**Adult basic education (ABE), and General Education preparation (GED)** - programs or classes that help adults to improve basic skills and prepare for the high school equivalency exam or a high school diploma.

**Credentials programs** - formal post-secondary education leading to a college degree, vocational or technical diploma, or other education related certificates.

**Work-related courses** - those activities that are related to a job or career, other than post-secondary and apprenticeship programs.

**Personal development courses** - courses that are lead by an instructor and do not fall into the other categories. (NCES, 1999)

I did not participate in any education activities after high school.

(2) Please check the appropriate answer:

Age:     18-24     25-34     35-44     45-54     55-64

Gender:     Male     Female

Race:     African-American     American Indian     White     Other

**THIS FORM IS VERY IMPORTANT TO THE RESEARCH AND MUST BE RETURNED WITH THE SURVEY. ALL INFORMATION IS COMPLETELY CONFIDENTIAL.**

**THANK YOU FOR YOUR HELP!**



APPENDIX C  
BOSHIER'S EDUCATION PARTICIPATION  
SCALE – FORM A

## TO WHAT EXTENT DID THESE REASONS INFLUENCE YOU TO ENROLL IN YOUR ADULT EDUCATION CLASS?

Think back to when you enrolled for your course and indicate the extent to which each of the reasons listed below influenced you to participate. *Circle* the category which best reflects the extent to which each reason influenced you to enroll. Circle *one* category for each reason. Be *frank*. There are *no* right or wrong answers.

|   |                 |                     |                       |                   |
|---|-----------------|---------------------|-----------------------|-------------------|
| To improve language skills                                  | No<br>Influence | Little<br>Influence | Moderate<br>Influence | Much<br>Influence |
| To become acquainted with friendly people                   | No<br>Influence | Little<br>Influence | Moderate<br>Influence | Much<br>Influence |
| To make up for a narrow previous education                  | No<br>Influence | Little<br>Influence | Moderate<br>Influence | Much<br>Influence |
| To secure professional advancement                          | No<br>Influence | Little<br>Influence | Moderate<br>Influence | Much<br>Influence |
| To get ready for changes in my family                       | No<br>Influence | Little<br>Influence | Moderate<br>Influence | Much<br>Influence |
| To overcome the frustration of day to day living            | No<br>Influence | Little<br>Influence | Moderate<br>Influence | Much<br>Influence |
| To get something meaningful out of life                     | No<br>Influence | Little<br>Influence | Moderate<br>Influence | Much<br>Influence |
| To speak better   | No<br>Influence | Little<br>Influence | Moderate<br>Influence | Much<br>Influence |
| To have a good time with friends                            | No<br>Influence | Little<br>Influence | Moderate<br>Influence | Much<br>Influence |
| To get education I missed earlier in life                   | No<br>Influence | Little<br>Influence | Moderate<br>Influence | Much<br>Influence |
| To achieve an occupational goal                             | No<br>Influence | Little<br>Influence | Moderate<br>Influence | Much<br>Influence |
| To share a common interest with my spouse or friend         | No<br>Influence | Little<br>Influence | Moderate<br>Influence | Much<br>Influence |
| To get away from loneliness                                 | No<br>Influence | Little<br>Influence | Moderate<br>Influence | Much<br>Influence |
| To acquire general knowledge                                | No<br>Influence | Little<br>Influence | Moderate<br>Influence | Much<br>Influence |
| To learn another language                                   | No<br>Influence | Little<br>Influence | Moderate<br>Influence | Much<br>Influence |
| To meet different people                                    | No<br>Influence | Little<br>Influence | Moderate<br>Influence | Much<br>Influence |
| To acquire knowledge to help with other educational courses | No<br>Influence | Little<br>Influence | Moderate<br>Influence | Much<br>Influence |
| To prepare for getting a job                                | No<br>Influence | Little<br>Influence | Moderate<br>Influence | Much<br>Influence |

APPENDIX D

RAW DATA

## Raw Data

### Frequencies

#### Statistics

|   |         | ACT | AGE | GENDER | RACE |
|---|---------|-----|-----|--------|------|
| N | Valid   | 206 | 205 | 197    | 205  |
|   | Missing | 0   | 1   | 9      | 1    |

### Frequency Table

|       |  | ACTIVITY                   |                                      |                                      |                                       |
|-------|--|----------------------------|--------------------------------------|--------------------------------------|---------------------------------------|
|       |  | Frequency                  | Percent                              | Valid Percent                        | Cumulative Percent                    |
| Valid | ABE credential work personal did not participate | 33<br>81<br>50<br>21<br>21 | 16.0<br>39.3<br>24.3<br>10.2<br>10.2 | 16.0<br>39.3<br>24.3<br>10.2<br>10.2 | 16.0<br>55.3<br>79.6<br>89.8<br>100.0 |
|       | Total  | 206                        | 100.0                                | 100.0                                |                                       |

|         |        | AGE       |         |               |                    |
|---------|--------|-----------|---------|---------------|--------------------|
|         |        | Frequency | Percent | Valid Percent | Cumulative Percent |
| Valid   | 18-24  | 109       | 52.9    | 53.2          | 53.2               |
|         | 25-34  | 46        | 22.3    | 22.4          | 75.6               |
|         | 35-44  | 24        | 11.7    | 11.7          | 87.3               |
|         | 45-54  | 20        | 9.7     | 9.8           | 97.1               |
|         | 5.00   | 6         | 2.9     | 2.9           | 100.0              |
|         | Total  | 205       | 99.5    | 100.0         |                    |
| Missing | System | 1         | .5      |               |                    |
| Total   |        | 206       | 100.0   |               |                    |

|         |        | GENDER    |         |               |                    |
|---------|--------|-----------|---------|---------------|--------------------|
|         |        | Frequency | Percent | Valid Percent | Cumulative Percent |
| Valid   | male   | 85        | 41.3    | 43.1          | 43.1               |
|         | female | 112       | 54.4    | 56.9          | 100.0              |
|         | Total  | 197       | 95.6    | 100.0         |                    |
| Missing | System | 9         | 4.4     |               |                    |
| Total   |        | 206       | 100.0   |               |                    |

**ETHNICITY**

|         |            | Frequency | Percent | Valid Percent | Cumulative Percent |
|---------|------------|-----------|---------|---------------|--------------------|
| Valid   | AA         | 38        | 18.4    | 18.5          | 18.5               |
|         | Am. Indian | 20        | 9.7     | 9.8           | 28.3               |
|         | White      | 121       | 58.7    | 59.0          | 87.3               |
|         | other      | 26        | 12.6    | 12.7          | 100.0              |
|         | Total      | 205       | 99.5    | 100.0         |                    |
| Missing | System     | 1         | .5      |               |                    |
| Total   |            | 206       | 100.0   |               |                    |

FACTOR

```

/VARIABLES var00001 var00002 var00003 var00004 var00005 var00006 var00007
var00008 var00009 var00010 var00011 var00012 var00013 var00014 var00015
var00016 var00017 var00018 var00019 var00020 var00021 var00022 var00023
var00024 var00025 var00026 var00027 var00028 var00029 var00030 var00031
var00032 var00033 var00034 var00035 var00036 var00037 var00038 var00039
var00040 var00041 var00042 /MISSING LISTWISE /ANALYSIS var00001 var00002
var00003 var00004 var00005 var00006 var00007 var00008 var00009 var00010
var00011 var00012 var00013 var00014 var00015 var00016 var00017 var00018
var00019 var00020 var00021 var00022 var00023 var00024 var00025 var00026
var00027 var00028 var00029 var00030 var00031 var00032 var00033 var00034
var00035 var00036 var00037 var00038 var00039 var00040 var00041 var00042
/PRINT INITIAL EXTRACTION ROTATION
/CRITERIA MINEIGEN(1) ITERATE(25)
/EXTRACTION PC
/CRITERIA ITERATE(25)
/ROTATION VARIMAX
/METHOD=CORRELATION .

```

## Factor Analysis

### Communalities

|          | Initial | Extraction |          |       |      |
|----------|---------|------------|----------|-------|------|
| VAR00001 | 1.000   | .757       | VAR00032 | 1.000 | .704 |
| VAR00002 | 1.000   | .662       | VAR00033 | 1.000 | .745 |
| VAR00003 | 1.000   | .718       | VAR00034 | 1.000 | .722 |
| VAR00004 | 1.000   | .767       | VAR00035 | 1.000 | .632 |
| VAR00005 | 1.000   | .630       | VAR00036 | 1.000 | .620 |
| VAR00006 | 1.000   | .516       | VAR00037 | 1.000 | .712 |
| VAR00007 | 1.000   | .514       | VAR00038 | 1.000 | .619 |
| VAR00008 | 1.000   | .663       | VAR00039 | 1.000 | .674 |
| VAR00009 | 1.000   | .669       | VAR00040 | 1.000 | .802 |
| VAR00010 | 1.000   | .744       | VAR00041 | 1.000 | .690 |
| VAR00011 | 1.000   | .567       | VAR00042 | 1.000 | .597 |
| VAR00012 | 1.000   | .745       |          |       |      |
| VAR00013 | 1.000   | .753       |          |       |      |
| VAR00014 | 1.000   | .575       |          |       |      |
| VAR00015 | 1.000   | .615       |          |       |      |
| VAR00016 | 1.000   | .734       |          |       |      |
| VAR00017 | 1.000   | .578       |          |       |      |
| VAR00018 | 1.000   | .736       |          |       |      |
| VAR00019 | 1.000   | .685       |          |       |      |
| VAR00020 | 1.000   | .685       |          |       |      |
| VAR00021 | 1.000   | .558       |          |       |      |
| VAR00022 | 1.000   | .678       |          |       |      |
| VAR00023 | 1.000   | .728       |          |       |      |
| VAR00024 | 1.000   | .711       |          |       |      |
| VAR00025 | 1.000   | .704       |          |       |      |
| VAR00026 | 1.000   | .506       |          |       |      |
| VAR00027 | 1.000   | .759       |          |       |      |
| VAR00028 | 1.000   | .737       |          |       |      |
| VAR00029 | 1.000   | .719       |          |       |      |
| VAR00030 | 1.000   | .450       |          |       |      |
| VAR00031 | 1.000   | .746       |          |       |      |

**Total Variance Explained**

| Component | Initial Eigenvalues |               |              | Extraction Sums of Squared Loadings |               |              | Rotation Sums of Squared Loadings |               |              |
|-----------|---------------------|---------------|--------------|-------------------------------------|---------------|--------------|-----------------------------------|---------------|--------------|
|           | Total               | % of Variance | Cumulative % | Total                               | % of Variance | Cumulative % | Total                             | % of Variance | Cumulative % |
| 1         | 8.986               | 21.394        | 21.394       | 8.986                               | 21.394        | 21.394       | 4.079                             | 9.711         | 9.71         |
| 2         | 3.142               | 7.481         | 28.875       | 3.142                               | 7.481         | 28.875       | 3.651                             | 8.694         | 18.40        |
| 3         | 2.426               | 5.777         | 34.652       | 2.426                               | 5.777         | 34.652       | 2.696                             | 6.419         | 24.82        |
| 4         | 2.243               | 5.341         | 39.992       | 2.243                               | 5.341         | 39.992       | 2.695                             | 6.417         | 31.24        |
| 5         | 1.836               | 4.371         | 44.364       | 1.836                               | 4.371         | 44.364       | 2.429                             | 5.784         | 37.02        |
| 6         | 1.696               | 4.039         | 48.402       | 1.696                               | 4.039         | 48.402       | 2.072                             | 4.933         | 41.95        |
| 7         | 1.558               | 3.710         | 52.112       | 1.558                               | 3.710         | 52.112       | 2.026                             | 4.824         | 46.78        |
| 8         | 1.344               | 3.200         | 55.312       | 1.344                               | 3.200         | 55.312       | 2.001                             | 4.764         | 51.54        |
| 9         | 1.328               | 3.162         | 58.474       | 1.328                               | 3.162         | 58.474       | 1.695                             | 4.035         | 55.58        |
| 10        | 1.268               | 3.018         | 61.492       | 1.268                               | 3.018         | 61.492       | 1.638                             | 3.901         | 59.48        |
| 11        | 1.246               | 2.966         | 64.458       | 1.246                               | 2.966         | 64.458       | 1.607                             | 3.826         | 63.30        |
| 12        | 1.056               | 2.514         | 66.971       | 1.056                               | 2.514         | 66.971       | 1.539                             | 3.663         | 66.97        |
| 13        | .957                | 2.279         | 69.251       |                                     |               |              |                                   |               |              |
| 14        | .928                | 2.209         | 71.460       |                                     |               |              |                                   |               |              |
| 15        | .882                | 2.100         | 73.560       |                                     |               |              |                                   |               |              |
| 16        | .861                | 2.050         | 75.610       |                                     |               |              |                                   |               |              |
| 17        | .779                | 1.855         | 77.465       |                                     |               |              |                                   |               |              |
| 18        | .737                | 1.754         | 79.219       |                                     |               |              |                                   |               |              |
| 19        | .696                | 1.658         | 80.878       |                                     |               |              |                                   |               |              |
| 20        | .663                | 1.579         | 82.457       |                                     |               |              |                                   |               |              |
| 21        | .621                | 1.478         | 83.936       |                                     |               |              |                                   |               |              |
| 22        | .588                | 1.400         | 85.335       |                                     |               |              |                                   |               |              |
| 23        | .567                | 1.350         | 86.685       |                                     |               |              |                                   |               |              |
| 24        | .524                | 1.248         | 87.933       |                                     |               |              |                                   |               |              |
| 25        | .498                | 1.186         | 89.119       |                                     |               |              |                                   |               |              |
| 26        | .456                | 1.086         | 90.206       |                                     |               |              |                                   |               |              |
| 27        | .444                | 1.056         | 91.262       |                                     |               |              |                                   |               |              |
| 28        | .419                | .997          | 92.259       |                                     |               |              |                                   |               |              |
| 29        | .403                | .960          | 93.218       |                                     |               |              |                                   |               |              |
| 30        | .349                | .830          | 94.048       |                                     |               |              |                                   |               |              |
| 31        | .318                | .757          | 94.806       |                                     |               |              |                                   |               |              |
| 32        | .295                | .703          | 95.509       |                                     |               |              |                                   |               |              |
| 33        | .291                | .693          | 96.202       |                                     |               |              |                                   |               |              |
| 34        | .266                | .634          | 96.836       |                                     |               |              |                                   |               |              |
| 35        | .242                | .577          | 97.413       |                                     |               |              |                                   |               |              |
| 36        | .223                | .532          | 97.945       |                                     |               |              |                                   |               |              |
| 37        | .212                | .504          | 98.448       |                                     |               |              |                                   |               |              |
| 38        | .185                | .441          | 98.890       |                                     |               |              |                                   |               |              |
| 39        | .142                | .337          | 99.227       |                                     |               |              |                                   |               |              |
| 40        | .125                | .296          | 99.523       |                                     |               |              |                                   |               |              |
| 41        | .120                | .286          | 99.809       |                                     |               |              |                                   |               |              |
| 42        | .080                | .191          | 100.000      |                                     |               |              |                                   |               |              |

**Component Matrix**

|          | Component |       |       |       |       |       |       |       |       |       |       |       |
|----------|-----------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
|          | 1         | 2     | 3     | 4     | 5     | 6     | 7     | 8     | 9     | 10    | 11    | 12    |
| VAR00001 | .023      | .501  | -.464 | -.283 | .121  | -.238 | -.157 | .134  | -.264 | -.142 | .025  | -.078 |
| VAR00002 | .417      | .300  | -.060 | -.397 | .366  | .047  | .026  | .005  | -.117 | -.290 | .043  | .024  |
| VAR00003 | .208      | .312  | -.637 | .069  | .030  | -.119 | -.255 | .120  | -.175 | -.038 | .203  | -.001 |
| VAR00004 | -.356     | .350  | -.138 | .284  | .363  | .380  | -.135 | -.105 | -.004 | -.008 | .267  | -.205 |
| VAR00005 | .447      | .188  | .146  | .228  | .046  | .279  | -.307 | -.128 | -.286 | .118  | .167  | .089  |
| VAR00006 | .547      | .255  | .023  | -.101 | -.232 | .066  | -.090 | -.177 | -.088 | .152  | .062  | .095  |
| VAR00007 | -.005     | .334  | -.041 | -.257 | -.292 | .049  | .124  | -.316 | .049  | .017  | -.003 | .359  |
| VAR00008 | .254      | .296  | -.204 | -.084 | -.250 | -.291 | .126  | -.048 | -.148 | -.054 | -.504 | -.131 |
| VAR00009 | .601      | .049  | .163  | -.090 | -.037 | .266  | .322  | .067  | .080  | -.221 | -.175 | -.074 |
| VAR00010 | .322      | .131  | -.402 | .291  | -.138 | -.029 | .060  | .119  | .143  | .404  | -.023 | -.394 |
| VAR00011 | -.511     | .337  | -.082 | .225  | .124  | .167  | .008  | -.112 | .164  | .223  | -.052 | -.002 |
| VAR00012 | .607      | .055  | -.011 | -.138 | -.052 | .091  | .007  | .047  | .265  | .491  | .047  | -.169 |
| VAR00013 | .588      | .000  | -.096 | -.417 | .145  | -.026 | -.169 | .158  | -.093 | .328  | .085  | .158  |
| VAR00014 | -.097     | .134  | .062  | -.332 | .182  | -.286 | .275  | .232  | .287  | .121  | .196  | .232  |
| VAR00015 | .369      | .100  | .340  | .268  | .307  | -.259 | -.093 | .122  | -.198 | .171  | .108  | -.132 |
| VAR00016 | .606      | .238  | .138  | .031  | .259  | .205  | .253  | -.048 | .062  | -.273 | -.056 | -.184 |
| VAR00017 | -.187     | .525  | .240  | .255  | -.097 | -.229 | .083  | -.036 | -.066 | -.193 | -.041 | -.180 |
| VAR00018 | -.550     | .524  | .163  | .027  | -.242 | .024  | -.106 | -.071 | -.083 | -.138 | -.155 | .081  |
| VAR00019 | .303      | .281  | .333  | -.154 | -.361 | .299  | -.349 | .041  | -.008 | -.102 | .144  | -.066 |
| VAR00020 | .640      | -.062 | .050  | -.232 | -.357 | .063  | -.248 | .022  | .034  | -.079 | .116  | -.017 |
| VAR00021 | .307      | .065  | .146  | .011  | -.290 | -.070 | -.138 | -.123 | .447  | -.091 | .326  | -.026 |
| VAR00022 | .532      | .249  | -.407 | .118  | -.053 | -.084 | .040  | .351  | .084  | -.105 | .002  | -.011 |
| VAR00023 | .654      | .179  | .096  | -.052 | .205  | .163  | .293  | .259  | .122  | -.033 | .042  | .130  |
| VAR00024 | -.343     | .468  | .342  | .044  | .059  | -.329 | .182  | .170  | .015  | .190  | .129  | .170  |
| VAR00025 | -.466     | .457  | -.059 | -.122 | .259  | .235  | .118  | -.105 | -.057 | .263  | -.164 | .115  |
| VAR00026 | .231      | .032  | .234  | .208  | .292  | .153  | -.072 | -.218 | -.156 | .226  | -.329 | .098  |
| VAR00027 | .756      | -.063 | -.136 | .024  | .035  | -.126 | -.095 | -.186 | .058  | .016  | -.237 | .208  |
| VAR00028 | .339      | .172  | -.030 | .433  | .044  | -.359 | -.044 | -.296 | .388  | .000  | -.118 | .136  |
| VAR00029 | .464      | .364  | -.155 | .226  | -.183 | .043  | -.263 | .161  | .230  | .034  | -.322 | .087  |
| VAR00030 | .212      | .114  | .142  | -.172 | -.037 | .328  | .202  | .148  | .204  | .005  | -.180 | -.311 |
| VAR00031 | -.198     | .201  | .594  | .026  | -.283 | -.134 | -.109 | .396  | -.155 | .144  | -.030 | -.029 |
| VAR00032 | -.491     | .432  | -.022 | .080  | -.308 | .315  | .128  | .153  | -.023 | .069  | .018  | .173  |
| VAR00033 | .582      | -.055 | .161  | .415  | -.125 | .180  | .227  | .145  | -.243 | -.003 | .106  | .115  |
| VAR00034 | .669      | .117  | -.178 | .198  | -.150 | -.014 | .237  | -.165 | -.061 | -.143 | .242  | -.025 |
| VAR00035 | .482      | .210  | .156  | -.019 | .059  | -.243 | .143  | -.394 | .049  | .017  | .282  | -.101 |
| VAR00036 | .670      | .088  | .193  | .016  | .162  | -.042 | -.249 | -.138 | -.057 | .009  | -.115 | -.030 |
| VAR00037 | .484      | .190  | .160  | -.527 | .247  | .112  | -.169 | -.071 | .126  | .051  | -.113 | -.019 |
| VAR00038 | .040      | .219  | .439  | .071  | .288  | -.296 | -.309 | .168  | .165  | -.195 | -.075 | -.082 |
| VAR00039 | -.460     | .384  | -.211 | .157  | .160  | .220  | -.089 | .116  | .284  | -.153 | .070  | .204  |
| VAR00040 | .667      | -.072 | .032  | .456  | .123  | .058  | .099  | .144  | -.013 | -.084 | .068  | .288  |
| VAR00041 | .711      | -.088 | -.055 | .105  | -.080 | -.029 | .201  | .128  | -.251 | .065  | -.066 | .163  |
| VAR00042 | -.023     | .427  | .064  | -.177 | -.123 | -.145 | .388  | -.248 | -.228 | .145  | .163  | -.176 |



**Rotated Component Matrix**

|          | Component |       |       |       |       |       |       |       |       |       |       |       |
|----------|-----------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
|          | 1         | 2     | 3     | 4     | 5     | 6     | 7     | 8     | 9     | 10    | 11    | 12    |
| VAR00001 | .088      | -.148 | -.006 | .024  | .816  | .066  | -.019 | -.084 | -.020 | .142  | .159  | .064  |
| VAR00002 | -.141     | .058  | .099  | .504  | .476  | -.020 | .191  | .004  | -.254 | .126  | -.041 | .171  |
| VAR00003 | .043      | .148  | .076  | -.164 | .774  | -.111 | -.039 | .082  | -.193 | -.016 | -.025 | -.063 |
| VAR00004 | .540      | -.120 | -.130 | .044  | .207  | .035  | .085  | .007  | .066  | .054  | -.561 | -.264 |
| VAR00005 | .010      | .382  | .402  | -.008 | .124  | .063  | .453  | .011  | .029  | .062  | -.211 | -.220 |
| VAR00006 | -.087     | .243  | .501  | .087  | .132  | -.098 | .245  | .104  | .117  | .230  | .160  | .030  |
| VAR00007 | .290      | -.032 | .311  | -.029 | .007  | -.276 | .019  | .117  | -.209 | .282  | .277  | .202  |
| VAR00008 | -.054     | .002  | -.033 | .144  | .258  | .047  | .042  | .094  | .127  | .178  | .704  | -.127 |
| VAR00009 | -.167     | .366  | .160  | .658  | -.098 | -.069 | .023  | .032  | .005  | .036  | .177  | -.021 |
| VAR00010 | -.009     | .161  | -.022 | .028  | .184  | -.061 | -.029 | .134  | .798  | .058  | .078  | -.120 |
| VAR00011 | .640      | -.233 | -.190 | -.124 | -.057 | .016  | .075  | .073  | .138  | .028  | -.128 | -.026 |
| VAR00012 | -.225     | .120  | .339  | .260  | -.030 | -.106 | .229  | .090  | .598  | .066  | .003  | .250  |
| VAR00013 | -.379     | .135  | .313  | .110  | .308  | -.131 | .375  | -.138 | .181  | -.037 | .019  | .418  |
| VAR00014 | .036      | -.086 | -.108 | .060  | .030  | .088  | -.162 | .034  | -.038 | .085  | -.036 | .710  |
| VAR00015 | -.252     | .290  | -.037 | .012  | .061  | .520  | .341  | .080  | .146  | .129  | -.173 | .028  |
| VAR00016 | -.103     | .333  | .049  | .709  | .100  | .062  | .147  | .200  | -.007 | .151  | -.051 | -.088 |
| VAR00017 | .337      | -.011 | -.037 | .029  | .057  | .510  | -.131 | .162  | -.076 | .312  | .143  | -.180 |
| VAR00018 | .626      | -.269 | .111  | -.146 | .006  | .271  | -.088 | -.064 | -.261 | .119  | .227  | -.137 |
| VAR00019 | .042      | .054  | .760  | .198  | .002  | .183  | .021  | -.097 | -.035 | .008  | -.017 | -.138 |
| VAR00020 | -.415     | .184  | .642  | .163  | .097  | -.086 | -.017 | .043  | .075  | -.044 | .115  | -.022 |
| VAR00021 | -.124     | .036  | .502  | .066  | -.102 | .040  | -.244 | .422  | .098  | .049  | -.128 | .082  |
| VAR00022 | -.068     | .413  | .084  | .221  | .498  | -.003 | -.147 | .168  | .304  | -.138 | .179  | .074  |
| VAR00023 | -.098     | .511  | .114  | .551  | .094  | .017  | .123  | .068  | .088  | -.011 | -.016 | .321  |
| VAR00024 | .390      | -.024 | -.095 | -.173 | -.058 | .505  | -.035 | -.006 | -.061 | .278  | .031  | .422  |
| VAR00025 | .647      | -.273 | -.200 | .036  | .061  | -.064 | .285  | -.177 | -.027 | .153  | .000  | .158  |
| VAR00026 | .029      | .151  | -.072 | .094  | -.166 | .058  | .643  | .079  | .006  | -.020 | .040  | -.126 |
| VAR00027 | -.389     | .321  | .180  | .150  | .154  | -.197 | .365  | .400  | .069  | -.090 | .282  | .037  |
| VAR00028 | -.008     | .181  | -.014 | -.051 | -.004 | .104  | .134  | .797  | .135  | .011  | .139  | .009  |
| VAR00029 | .156      | .244  | .323  | .157  | .236  | .097  | .153  | .322  | .306  | -.305 | .352  | -.063 |
| VAR00030 | .043      | -.026 | .118  | .577  | -.149 | .009  | -.037 | -.129 | .235  | -.009 | .074  | -.013 |
| VAR00031 | .134      | .010  | .236  | -.148 | -.255 | .659  | -.054 | -.336 | .002  | .012  | .159  | .100  |
| VAR00032 | .744      | .006  | .103  | -.115 | -.056 | .002  | -.211 | -.258 | -.015 | .046  | .095  | .019  |
| VAR00033 | -.139     | .800  | .126  | .115  | -.116 | .051  | .089  | -.023 | .094  | .059  | -.005 | -.140 |
| VAR00034 | -.215     | .555  | .193  | .193  | .203  | -.174 | -.072 | .297  | .122  | .315  | .017  | -.120 |
| VAR00035 | -.248     | .147  | .194  | .161  | .058  | .060  | .129  | .403  | .033  | .532  | -.098 | .083  |
| VAR00036 | -.339     | .203  | .285  | .249  | .123  | .151  | .464  | .245  | .037  | .006  | .043  | -.074 |
| VAR00037 | -.219     | -.168 | .353  | .499  | .162  | -.020 | .401  | .034  | -.024 | .011  | .028  | .268  |
| VAR00038 | -.059     | -.138 | .041  | .142  | .050  | .662  | .121  | .242  | -.150 | -.165 | -.079 | .076  |
| VAR00039 | .674      | -.124 | -.091 | -.013 | .190  | -.006 | -.158 | .131  | -.106 | -.244 | -.202 | .075  |
| VAR00040 | -.180     | .782  | .036  | .129  | .028  | .021  | .168  | .276  | .035  | -.170 | -.067 | .011  |
| VAR00041 | -.351     | .642  | .089  | .130  | .097  | -.095 | .183  | -.013 | .120  | .049  | .241  | .049  |
| VAR00042 | .147      | -.032 | .018  | .067  | .073  | .051  | -.025 | -.081 | .052  | .729  | .119  | .083  |

**Component Transformation Matrix**

| Component | 1     | 2     | 3     | 4     | 5     | 6     | 7     | 8     | 9     | 10    | 11    | 12    |
|-----------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| 1         | -.495 | .521  | .347  | .379  | .178  | -.065 | .262  | .244  | .203  | .034  | .113  | .034  |
| 2         | .648  | -.002 | .234  | .215  | .434  | .328  | .101  | .142  | .051  | .342  | .154  | .099  |
| 3         | -.066 | .014  | .241  | .154  | -.632 | .602  | .189  | -.080 | -.282 | .126  | -.092 | .080  |
| 4         | .256  | .523  | -.265 | -.284 | -.161 | .241  | .006  | .368  | .216  | -.138 | -.148 | -.451 |
| 5         | -.047 | -.085 | -.546 | .280  | .233  | .107  | .480  | .096  | -.139 | -.112 | -.484 | .205  |
| 6         | .411  | .134  | .255  | .397  | -.200 | -.420 | .147  | -.361 | .019  | -.223 | -.307 | -.279 |
| 7         | .096  | .337  | -.481 | .330  | -.288 | -.209 | -.290 | -.085 | .024  | .477  | .165  | .250  |
| 8         | .012  | .267  | -.068 | .101  | .182  | .402  | -.318 | -.466 | .224  | -.505 | .038  | .307  |
| 9         | .135  | -.270 | .110  | .267  | -.274 | -.079 | -.289 | .602  | .259  | -.328 | -.110 | .333  |
| 10        | .081  | -.059 | .025  | -.335 | -.220 | -.079 | .453  | -.190 | .666  | .149  | -.013 | .340  |
| 11        | -.076 | .178  | .271  | -.232 | .141  | -.023 | -.349 | -.014 | -.017 | .333  | -.736 | .202  |
| 12        | .232  | .370  | .104  | -.336 | -.042 | -.251 | .194  | .125  | -.499 | -.246 | .149  | .486  |

GLM

```

factor1 factor2 factor3 factor4 factor5 factor6 factor7 BY gender
/METHOD = SSTYPE(3)
/INTERCEPT = INCLUDE
/POSTHOC = gender ( SCHEFFE )
./PRINT = DESCRIPTIVE ETASQ OPOWER
/CRITERIA = ALPHA(.05)
/DESIGN = gender .
    
```

## General Linear Model

### Warnings

Post hoc tests are not performed for GENDER because there are fewer than three groups.

### Between-Subjects Factors

|            | Value Label | N            |
|------------|-------------|--------------|
| GENDE<br>R | 1.00        | male<br>75   |
|            | 2.00        | female<br>97 |

**Descriptive Statistics**

|         | GENDER | Mean   | Std. Deviation | N   |
|---------|--------|--------|----------------|-----|
| FACTOR1 | male   | 1.4947 | .60847         | 75  |
|         | female | 1.5052 | .68197         | 97  |
|         | Total  | 1.5006 | .64911         | 172 |
| FACTOR2 | male   | 2.0517 | .78738         | 75  |
|         | female | 1.9897 | .69636         | 97  |
|         | Total  | 2.0167 | .73585         | 172 |
| FACTOR3 | male   | 1.9227 | .82061         | 75  |
|         | female | 1.9113 | .66079         | 97  |
|         | Total  | 1.9163 | .73251         | 172 |
| FACTOR4 | male   | 2.0844 | .94574         | 75  |
|         | female | 1.9622 | .75672         | 97  |
|         | Total  | 2.0155 | .84394         | 172 |
| FACTOR5 | male   | 2.1767 | .72919         | 75  |
|         | female | 2.2036 | .79577         | 97  |
|         | Total  | 2.1919 | .76536         | 172 |
| FACTOR6 | male   | 2.3573 | .68442         | 75  |
|         | female | 2.4268 | .75863         | 97  |
|         | Total  | 2.3965 | .72595         | 172 |
| FACTOR7 | male   | 1.7733 | .72939         | 75  |
|         | female | 1.8162 | .70649         | 97  |
|         | Total  | 1.7975 | .71477         | 172 |

**Multivariate Tests**

| Effect    |                   | Value  | F       | Hypis df | Error df | Sig. | Partial Eta Squared | Noncent. Parameter | Observed Power |
|-----------|-------------------|--------|---------|----------|----------|------|---------------------|--------------------|----------------|
| Intercept | Pillai's Trace    | .976   | 938.077 | 7.000    | 164.000  | .000 | .976                | 6566.537           | 1.000          |
|           | Wilks' Lambda     | .024   | 938.077 | 7.000    | 164.000  | .000 | .976                | 6566.537           | 1.000          |
|           | Hotelling's Trace | 40.040 | 938.077 | 7.000    | 164.000  | .000 | .976                | 6566.537           | 1.000          |
|           | Roy's Largest     | 40.040 | 938.077 | 7.000    | 164.000  | .000 | .976                | 6566.537           | 1.000          |
| GENDER    | Pillai's Trace    | .018   | .438    | 7.000    | 164.000  | .877 | .018                | 3.064              | .189           |
|           | Wilks' Lambda     | .982   | .438    | 7.000    | 164.000  | .877 | .018                | 3.064              | .189           |
|           | Hotelling's Trace | .019   | .438    | 7.000    | 164.000  | .877 | .018                | 3.064              | .189           |
|           | Roy's Largest     | .019   | .438    | 7.000    | 164.000  | .877 | .018                | 3.064              | .189           |

**Tests of Between-Subjects Effects**

| Source          | Dependent Variable | Type III Sum of Squares | df  | Mean Square | F        | Sig. | Partial Eta Squared | Noncent. Parameter | Observed Power |
|-----------------|--------------------|-------------------------|-----|-------------|----------|------|---------------------|--------------------|----------------|
| Corrected Model | FACTOR1            | .005                    | 1   | .005        | .011     | .917 | .000                | .011               | .051           |
|                 | FACTOR2            | .162                    | 1   | .162        | .299     | .585 | .002                | .299               | .082           |
|                 | FACTOR3            | .005                    | 1   | .005        | .010     | .920 | .000                | .010               | .051           |
|                 | FACTOR4            | .632                    | 1   | .632        | .887     | .348 | .005                | .887               | .151           |
|                 | FACTOR5            | .031                    | 1   | .031        | .052     | .820 | .000                | .052               | .051           |
|                 | FACTOR6            | .204                    | 1   | .204        | .386     | .535 | .002                | .386               | .091           |
|                 | FACTOR7            | .078                    | 1   | .078        | .151     | .698 | .001                | .151               | .061           |
| Intercept       | FACTOR1            | 380.623                 | 1   | 380.623     | 898.129  | .000 | .841                | 898.129            | 1.000          |
|                 | FACTOR2            | 690.811                 | 1   | 690.811     | 1270.558 | .000 | .882                | 1270.558           | 1.000          |
|                 | FACTOR3            | 621.742                 | 1   | 621.742     | 1152.014 | .000 | .871                | 1152.014           | 1.000          |
|                 | FACTOR4            | 692.619                 | 1   | 692.619     | 971.817  | .000 | .851                | 971.817            | 1.000          |
|                 | FACTOR5            | 811.535                 | 1   | 811.535     | 1377.710 | .000 | .890                | 1377.710           | 1.000          |
|                 | FACTOR6            | 968.081                 | 1   | 968.081     | 1830.352 | .000 | .915                | 1830.352           | 1.000          |
|                 | FACTOR7            | 544.965                 | 1   | 544.965     | 1061.401 | .000 | .862                | 1061.401           | 1.000          |
| GENDER          | FACTOR1            | .005                    | 1   | .005        | .011     | .917 | .000                | .011               | .051           |
|                 | FACTOR2            | .162                    | 1   | .162        | .299     | .585 | .002                | .299               | .081           |
|                 | FACTOR3            | .005                    | 1   | .005        | .010     | .920 | .000                | .010               | .051           |
|                 | FACTOR4            | .632                    | 1   | .632        | .887     | .348 | .005                | .887               | .151           |
|                 | FACTOR5            | .031                    | 1   | .031        | .052     | .820 | .000                | .052               | .051           |
|                 | FACTOR6            | .204                    | 1   | .204        | .386     | .535 | .002                | .386               | .091           |
|                 | FACTOR7            | .078                    | 1   | .078        | .151     | .698 | .001                | .151               | .061           |
| Error           | FACTOR1            | 72.045                  | 170 | .424        |          |      |                     |                    |                |
|                 | FACTOR2            | 92.430                  | 170 | .544        |          |      |                     |                    |                |
|                 | FACTOR3            | 91.749                  | 170 | .540        |          |      |                     |                    |                |
|                 | FACTOR4            | 121.160                 | 170 | .713        |          |      |                     |                    |                |
|                 | FACTOR5            | 100.138                 | 170 | .589        |          |      |                     |                    |                |
|                 | FACTOR6            | 89.914                  | 170 | .529        |          |      |                     |                    |                |
|                 | FACTOR7            | 87.285                  | 170 | .513        |          |      |                     |                    |                |
| Total           | FACTOR1            | 459.350                 | 172 |             |          |      |                     |                    |                |
|                 | FACTOR2            | 792.141                 | 172 |             |          |      |                     |                    |                |
|                 | FACTOR3            | 723.360                 | 172 |             |          |      |                     |                    |                |
|                 | FACTOR4            | 820.500                 | 172 |             |          |      |                     |                    |                |
|                 | FACTOR5            | 926.500                 | 172 |             |          |      |                     |                    |                |
|                 | FACTOR6            | 1077.960                | 172 |             |          |      |                     |                    |                |
|                 | FACTOR7            | 643.083                 | 172 |             |          |      |                     |                    |                |
| Corrected Total | FACTOR1            | 72.050                  | 171 |             |          |      |                     |                    |                |
|                 | FACTOR2            | 92.593                  | 171 |             |          |      |                     |                    |                |
|                 | FACTOR3            | 91.754                  | 171 |             |          |      |                     |                    |                |
|                 | FACTOR4            | 121.792                 | 171 |             |          |      |                     |                    |                |
|                 | FACTOR5            | 100.169                 | 171 |             |          |      |                     |                    |                |
|                 | FACTOR6            | 90.118                  | 171 |             |          |      |                     |                    |                |
|                 | FACTOR7            | 87.362                  | 171 |             |          |      |                     |                    |                |

**General Linear Model**

**Between-Subjects Factors**

|     | Value Label | N     |    |
|-----|-------------|-------|----|
| AGE | 1.00        | 18-24 | 92 |
|     | 2.00        | 25-34 | 40 |
|     | 3.00        | 35-44 | 24 |
|     | 4.00        | 45-54 | 18 |
|     | 5.00        |       | 6  |

**Descriptive Statistics**

|         | AGE   | Mean   | Std. Deviation | N   |
|---------|-------|--------|----------------|-----|
| FACTOR1 | 18-24 | 1.5696 | .52785         | 92  |
|         | 25-34 | 1.5600 | .69607         | 40  |
|         | 35-44 | 1.2500 | .69658         | 24  |
|         | 45-54 | 1.3944 | .80474         | 18  |
|         | 5.00  | .6333  | .78909         | 6   |
|         | Total | 1.4761 | .65257         | 180 |
| FACTOR2 | 18-24 | 1.9851 | .76873         | 92  |
|         | 25-34 | 1.9406 | .62787         | 40  |
|         | 35-44 | 2.2865 | .71710         | 24  |
|         | 45-54 | 1.8750 | .57522         | 18  |
|         | 5.00  | 2.3750 | .77460         | 6   |
|         | Total | 2.0174 | .72004         | 180 |
| FACTOR3 | 18-24 | 1.8478 | .76539         | 92  |
|         | 25-34 | 1.8650 | .61833         | 40  |
|         | 35-44 | 2.1000 | .64065         | 24  |
|         | 45-54 | 2.1333 | .81168         | 18  |
|         | 5.00  | 2.7333 | 1.19108        | 6   |
|         | Total | 1.9433 | .75495         | 180 |
| FACTOR4 | 18-24 | 2.0797 | .92135         | 92  |
|         | 25-34 | 1.8667 | .62725         | 40  |
|         | 35-44 | 1.9861 | .71037         | 24  |
|         | 45-54 | 1.9167 | .80084         | 18  |
|         | 5.00  | 2.6389 | 1.07195        | 6   |
|         | Total | 2.0222 | .83443         | 180 |
| FACTOR5 | 18-24 | 2.1359 | .76802         | 92  |
|         | 25-34 | 2.1937 | .71944         | 40  |
|         | 35-44 | 2.2604 | .76783         | 24  |
|         | 45-54 | 2.5417 | .81912         | 18  |
|         | 5.00  | 2.2917 | 1.02977        | 6   |
|         | Total | 2.2111 | .77217         | 180 |
| FACTOR6 | 18-24 | 2.4957 | .65665         | 92  |
|         | 25-34 | 2.5450 | .78052         | 40  |
|         | 35-44 | 2.0833 | .64043         | 24  |
|         | 45-54 | 2.0778 | .71336         | 18  |
|         | 5.00  | 1.9667 | .88919         | 6   |
|         | Total | 2.3922 | .71734         | 180 |
| FACTOR7 | 18-24 | 1.7228 | .66174         | 92  |
|         | 25-34 | 1.8625 | .86305         | 40  |
|         | 35-44 | 1.8958 | .54465         | 24  |
|         | 45-54 | 2.0648 | .92379         | 18  |
|         | 5.00  | 2.1111 | .94084         | 6   |
|         | Total | 1.8241 | .73734         | 180 |

**Multivariate Tests**

| Effect    |                       | Value  | F       | Hypothesis<br>df | Error df | Sig. | Partial<br>Eta<br>Squared | Noncent.<br>Parameter | Observed<br>Power |
|-----------|-----------------------|--------|---------|------------------|----------|------|---------------------------|-----------------------|-------------------|
| Intercept | Pillai's Trace        | .949   | 450.827 | 7.000            | 169.000  | .000 | .949                      | 3155.792              | 1.000             |
|           | Wilks' Lambda         | .051   | 450.827 | 7.000            | 169.000  | .000 | .949                      | 3155.792              | 1.000             |
|           | Hotelling's<br>Trace  | 18.673 | 450.827 | 7.000            | 169.000  | .000 | .949                      | 3155.792              | 1.000             |
|           | Roy's Largest<br>Root | 18.673 | 450.827 | 7.000            | 169.000  | .000 | .949                      | 3155.792              | 1.000             |
| AGE       | Pillai's Trace        | .334   | 2.237   | 28.000           | 688.000  | .000 | .083                      | 62.647                | .999              |
|           | Wilks' Lambda         | .700   | 2.270   | 28.000           | 610.760  | .000 | .085                      | 57.000                | .998              |
|           | Hotelling's<br>Trace  | .383   | 2.288   | 28.000           | 670.000  | .000 | .087                      | 64.075                | 1.000             |
|           | Roy's Largest<br>Root | .202   | 4.974   | 7.000            | 172.000  | .000 | .168                      | 34.820                | .996              |

Tests of Between-Subjects Effects

| Source          | Dependent Variable | Type III Sum of Squares | df  | Mean Square | F       | Sig. | Partial Eta Squared | Noncent. Parameter | Observed Power |
|-----------------|--------------------|-------------------------|-----|-------------|---------|------|---------------------|--------------------|----------------|
| Corrected Model | FACTOR1            | 6.694                   | 4   | 1.673       | 4.212   | .003 | .088                | 16.847             | .919           |
|                 | FACTOR2            | 3.202                   | 4   | .800        | 1.563   | .186 | .034                | 6.253              | .476           |
|                 | FACTOR3            | 6.068                   | 4   | 1.517       | 2.767   | .029 | .059                | 11.067             | .752           |
|                 | FACTOR4            | 3.785                   | 4   | .946        | 1.370   | .246 | .030                | 5.482              | .421           |
|                 | FACTOR5            | 2.597                   | 4   | .649        | 1.091   | .363 | .024                | 4.364              | .339           |
|                 | FACTOR6            | 7.074                   | 4   | 1.769       | 3.640   | .007 | .077                | 14.558             | .871           |
|                 | FACTOR7            | 2.663                   | 4   | .666        | 1.231   | .299 | .027                | 4.924              | .381           |
| Intercept       | FACTOR1            | 136.957                 | 1   | 136.957     | 344.690 | .000 | .663                | 344.690            | 1.000          |
|                 | FACTOR2            | 365.148                 | 1   | 365.148     | 713.153 | .000 | .803                | 713.153            | 1.000          |
|                 | FACTOR3            | 380.478                 | 1   | 380.478     | 693.913 | .000 | .799                | 693.913            | 1.000          |
|                 | FACTOR4            | 366.959                 | 1   | 366.959     | 531.394 | .000 | .752                | 531.394            | 1.000          |
|                 | FACTOR5            | 435.328                 | 1   | 435.328     | 731.604 | .000 | .807                | 731.604            | 1.000          |
|                 | FACTOR6            | 416.114                 | 1   | 416.114     | 856.353 | .000 | .830                | 856.353            | 1.000          |
|                 | FACTOR7            | 311.115                 | 1   | 311.115     | 575.198 | .000 | .767                | 575.198            | 1.000          |
| AGE             | FACTOR1            | 6.694                   | 4   | 1.673       | 4.212   | .003 | .088                | 16.847             | .919           |
|                 | FACTOR2            | 3.202                   | 4   | .800        | 1.563   | .186 | .034                | 6.253              | .476           |
|                 | FACTOR3            | 6.068                   | 4   | 1.517       | 2.767   | .029 | .059                | 11.067             | .752           |
|                 | FACTOR4            | 3.785                   | 4   | .946        | 1.370   | .246 | .030                | 5.482              | .421           |
|                 | FACTOR5            | 2.597                   | 4   | .649        | 1.091   | .363 | .024                | 4.364              | .339           |
|                 | FACTOR6            | 7.074                   | 4   | 1.769       | 3.640   | .007 | .077                | 14.558             | .871           |
|                 | FACTOR7            | 2.663                   | 4   | .666        | 1.231   | .299 | .027                | 4.924              | .381           |
| Error           | FACTOR1            | 69.534                  | 175 | .397        |         |      |                     |                    |                |
|                 | FACTOR2            | 89.603                  | 175 | .512        |         |      |                     |                    |                |
|                 | FACTOR3            | 95.954                  | 175 | .548        |         |      |                     |                    |                |
|                 | FACTOR4            | 120.848                 | 175 | .691        |         |      |                     |                    |                |
|                 | FACTOR5            | 104.131                 | 175 | .595        |         |      |                     |                    |                |
|                 | FACTOR6            | 85.035                  | 175 | .486        |         |      |                     |                    |                |
|                 | FACTOR7            | 94.655                  | 175 | .541        |         |      |                     |                    |                |
| Total           | FACTOR1            | 468.430                 | 180 |             |         |      |                     |                    |                |
|                 | FACTOR2            | 825.359                 | 180 |             |         |      |                     |                    |                |
|                 | FACTOR3            | 781.800                 | 180 |             |         |      |                     |                    |                |
|                 | FACTOR4            | 860.722                 | 180 |             |         |      |                     |                    |                |
|                 | FACTOR5            | 986.750                 | 180 |             |         |      |                     |                    |                |
|                 | FACTOR6            | 1122.200                | 180 |             |         |      |                     |                    |                |
|                 | FACTOR7            | 696.222                 | 180 |             |         |      |                     |                    |                |
| Corrected Total | FACTOR1            | 76.227                  | 179 |             |         |      |                     |                    |                |
|                 | FACTOR2            | 92.805                  | 179 |             |         |      |                     |                    |                |
|                 | FACTOR3            | 102.022                 | 179 |             |         |      |                     |                    |                |
|                 | FACTOR4            | 124.633                 | 179 |             |         |      |                     |                    |                |
|                 | FACTOR5            | 106.728                 | 179 |             |         |      |                     |                    |                |
|                 | FACTOR6            | 92.109                  | 179 |             |         |      |                     |                    |                |
|                 | FACTOR7            | 97.318                  | 179 |             |         |      |                     |                    |                |

VITA #2

Kelly Moyers-Ham

Candidate for the Degree of

Doctor of Education

Thesis: A DESCRIPTIVE STUDY OF AN URBAN CLUSTER'S EDUCATION

PARTICIPATION PROFIEL – LOGAN COUTNY

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Biographical:

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