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READINESS FOR LIFELONG LEARNING OF VOLUNTEERS AFFILIATED WITH A 4-H YOUTH DEVELOPMENT PROGRAM IN THE SOUTHERN REGION OF THE UNITED STATES

A Dissertation

Submitted to the Graduate Faculty of the Louisiana State University and Agricultural and Mechanical College in partial fulfillment of the requirements for the Degree of Doctor of Philosophy in The School of Human Resource Education and Workforce Development

by
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ABSTRACT

The purpose of this study was to explore and determine the level of readiness for lifelong learning of volunteers affiliated with a 4-H youth development program in the southern United States. Based on a literature review, readiness for lifelong learning was conceptualized as incorporating aspects of response to triggers for learning, self-directed learning readiness, and a readiness to overcome deterrents to participation in learning. The Readiness for Lifelong Learning Survey, a 75 item Likert-type scale, was developed and administered online to 1815 adult volunteers who had provided usable emails in an enrollment database system. The final response count was 277 representing a 15.3% response rate.

The overall readiness for lifelong learning score fell within the “high readiness” category on an interpretive scale developed by the researcher. There were significant differences in the overall readiness for lifelong learning mean score based on marital status, yearly net income and preferred format for learning. No significant differences in readiness for lifelong learning mean score was observed based on gender, ethnicity, and highest level of education completed, presence of children at home, employment status, and occupational category, and whether current employment requires continuous certification. A regression model with four demographic variables found that explained a significant portion of the variance in the overall readiness for lifelong learning score. Preference for “web-based/online training” and “divorced” marital status increased the overall readiness for lifelong learning score, while earning “more than $100,000” in yearly net income and being “single never married” reduced the overall readiness for lifelong learning score.
CHAPTER 1

INTRODUCTION

Levin (1998) describes a system of lifelong learning as one in which both formal and informal learning opportunities are available to individuals to choose from in their circumstances, to help in meeting their societal and personal needs over the entire life cycle. Cross and Hilton (1983) view lifelong learning as expressing an ideal where people would, throughout their lives, be able to move easily in and out of learning opportunities acquiring knowledge, skills and attitudes necessary for independent living in a complex society. Learning is undertaken for meeting both occupational and personal needs. Learning opportunities are broadly conceived to include a variety of ways in which people engage in learning such as enrollment full-time or part-time in a college or vocational school, attending seminars and workshops within the community, training at places of employment, television courses, independent reading/study projects (library or online), correspondence courses, mentoring, and goal-directed informal learning from colleague or friend among other ways.

Lifelong learning as a concept is not new. The concept of learning throughout life is mentioned in ancient writings (Cropley, 1980). However, the rapid and pervasive nature of change due to globalization and technological developments witnessed from the 1960’s brought debates on lifelong learning to the center stage (Field, 2000a).

Rationale

It is widely accepted that society is grappling with constant change occasioned by globalization and rapid technological development. According to Desjardins, Rubenson, and Milana (2006), countries are undergoing fundamental economic transformations in which knowledge and information are becoming the foundations of economic activity. The new global economy comes with a new set of transitions and adjustment challenges at the societal, industry
and individual levels. Lifelong learning is viewed as the vehicle which enables people to adapt and meet the challenges of the new economy. According to Houle (1973), lifelong learning is no longer just desirable, but necessary. He adds that opportunities for continuing learning should be made available to adults throughout their lives.

According to Levin (1998), past conceptions of education involved the assumption that adult roles remained relatively stable over a typical lifetime. Thus preparation for occupational, family and civic roles could largely be accomplished in the early education years before entering adult roles. This idea is what Tight (1988b) calls “front-end” education, where education is essentially confined to the earlier years of life in preparation for the rest of adult life. This conception has been challenged by many writers including Houle (1973) and more recently Field (2000a) who view continuous education throughout life as a necessary component of career, civic and private life owing to the constantly changing conditions of modern life. Dramatic economic and technological changes and innovations which have affected virtually every facet of human life (Field, 2000a) create the forces that make continuous engagement with learning throughout life a necessity.

Field (2000a) offers at least three forces that are driving the agenda for lifelong learning. The first is the increased economic and social importance of knowledge, where scientific, technological and other information are so significant to the success of any nation. In what is called a knowledge society, the unskilled/uneducated face diminishing opportunities for themselves and also drag back the application of knowledge with implications for the larger society. The second is the tremendous impact of new information and communication technologies (ICTs) with applications which have transformed not just private life, but also how industry and services operate. “Governments and corporations are fearful that innovations arising from new applications of the new technologies will leave them stranded while competitors race
ahead” (Field, 2000a, p. 17). The third force is globalization which includes cross-border corporate expansion and intensifying global competition. Globalizing tendencies have had impact in the economic, cultural and social spheres. Lifelong learning is seen as a way of dealing with globalizing tendencies. To become global citizens people are being forced to acquire new skills which include linguistic, interpersonal, cultural and technological. Export of production is slowly making competition for jobs a global affair, with jobs moving to areas which have better qualified and/or cheaper labor force. Lifelong learning is widely regarded as a defense against these forces which are experienced at, and have implications for the economic/societal, organizational and individual levels of society.

Highlighted below are at least four considerations that make the case on why lifelong learning is important.

**Economic Considerations**

According to the Organization for Economic Co-operation and Development (OECD, 2004), there is a positive relationship between educational attainment and economic growth. Human capital development is considered to be at the center of countries’ economic competitiveness. Politicians are acknowledging that “knowledge is the most important source of future advantage” for their countries (Field, 2000a, p. 1). Nijhof (2005) asserts that the more knowledge-intensive the economy becomes, the more profit, efficiency and innovation will occur. According to Field (2000a), there is a need not just to develop a small minority of skilled workers or specialized professionals, but the whole workforce. A nation’s economic competitiveness is pegged on the development of a more productive and efficient workforce. Lifelong learning is being seen as central to developing a country’s economic competitiveness.

According to Ellinger (2004), learning is seen as the source of competitive advantage for organizations. Skills and competence of the workforce are a major factor in the economic
performance and success at the organization level (OECD, 2004). There is an economic necessity for constant improvement of skills in the workplace. Many organizations invest in the continuing education of their employees, as it is seen as the only way to stay competitive. The professions are also recognizing the importance of developing practitioners to be lifelong learners (Merriam, Caffarella, & Baumgartner, 2007).

At the individual level, economic imperatives have to do with remaining employable in the face of a less stable labor market. Overall, the concept of a career for life is slowly diminishing. According to the OECD (2004), individuals are experiencing more frequent changes in jobs over their working life. Fischer (1999) notes that most people change careers several times in their lives, even though their schooling was designed to prepare them for their first career. Also the pace of technological change is so fast that skills to use technology become obsolete in 5-10 years. The inability to handle new technologies is also putting many people’s future at risk (Kathryn, 1999). According to Levin (1998), firms are increasingly looking for contract workers due to the instability in product markets and rising costs of benefits for employees. Redundancies or closures are also rendering individuals jobless (Field, 2000a). There is no doubt that the employment market has become relatively unpredictable. Unemployment is a more permanent feature that requires constant retraining, job development and new occupational placements (Levin, 1998).

Since occupations have become less stable and less predictable (Field, 2000a), learners are being encouraged to assume more responsibility for their own learning and development to remain employable (Ellinger, 2004). Engagement in lifelong learning is a way to help individuals become flexible and adaptable, providing opportunities to learn new skills as needed to remain employable (Levin, 1998).
Complexity of Social Life

Away from the economic front and rooted in the daily lives of individuals are found a series of intimate and often small scale demands for change and adaptability (Field, 2000a). Individuals turn to learning to help adapt to changes in the wider context of individual values, social relationships, and living patterns. According to Levin (1998), increasing complexities of family and civic life require constant re-learning. Some of the complexities arise from some factors discussed by Field (2000a), a few of which include: marriage no longer being a once-for-all, linear stage; the family may be made up of children from several different pairs; there’s less certainty in decision making even for those who retain a single partner and conventional career; social networks are now more open, fluid and ephemeral; relevance of older role models has been reduced leaving people with a plethora of alternative models of behavior which may be media driven; daily challenges come in fresh and varied forms that rarely correspond to ready-made solutions; among others. Whereas discussions of lifelong learning have largely been driven by economic concerns, debates on the need to cope with an increasingly complex life occasioned by social and cultural changes are increasingly underscoring the importance of lifelong learning. According to Field (2000a), more people are taking part in a wider range of organized learning, which is not just occupational related. The forces of globalizing tendencies have also affected the cultural and social spheres of adult life, with implications for adult learning needs.

A Growing Older Population

According to Peterson and Masunaga (1998), the proportion of the older adult population called baby boomers has been increasing and becoming more visible. Levin (1998) correctly notes that the older, non-traditional students are also becoming prevalent at universities. Longer life expectancy and longer life after retirement is encouraging older adults to participate in learning activities. As Americans face financial strain in retirement income, many are staying in
the labor force longer and even changing jobs later in life (Giandrea, Cahill & Quinn, 2008). The change in jobs may be within the same occupation, across occupations, or can also include movement into self-employment. These economic driven changes have implications for the learning needs of older adults. They not only have to learn to facilitate second careers, but also adjust to new technological demands.

For those who retire, pursuit for satisfactory ways of spending increased leisure time may lead to participation in learning activities. According to Roberson and Merriam (2005) increased free time from retirement, transitions in one’s family such as friendship with an adult child or dealing with grandchildren, and dealing with social loss (loss of spouse, withdrawal from social activities) and physical loss (loss of strength, health) are some factors that spur engagement in self-directed learning among older adults. Engagement in learning activities in later life is being touted as a way for helping the increasing population of older adults address their specific challenges in career and social life.

**Social and Economic Exclusion**

According to Kathryn (1999), some lifelong learning discourses emphasize social inclusion as a goal and, at least at policy level, there is concern for preventing people from being marginalized. A glance at a few statistics shows that the concern is not misplaced. A report titled a Nation at Risk by the National Commission of Excellence in Education (1983) identified 23 million adults in the United States as being functionally illiterate. Functional illiteracy ran as high as 40% among minority youth. In the high school system, 13% of 17 year olds were functionally illiterate. A lot of money was being spent on remedial education (basic skills in reading, writing, spelling, and computation), in college, military, business and industry. The above problems were compounded by a high drop-out rate from high school disproportionately affecting minority youth. A follow-up report (U.S. Department of Education, 2008) found that
high school drop-out rates are still a problem. For minorities in inner cities, about half do not graduate on time.

The U.S. Department of Education (2008) cites some statistics to make the case that there are both private and public costs to high school drop-outs. For instance, in 2006, nearly 60% of high school drop-outs aged 25 years and over were either unemployed or not participating in learning at all. High school drop-outs were more likely to be unemployed, living in poverty, receiving public assistance, or in prison. The public costs here are loss of productive workers and higher costs associated with incarceration, health care and social services. In terms of private costs, high school graduates earn at least $8,100 more per year than high school drop-outs and about $1,000,000 less than college graduates over their lifetime. According to the OECD (2004), the earning gaps between those with and those without post-secondary education widen over a lifetime.

The challenge here is that many adults will have to learn these skills necessary to function in society out of high school and in post-secondary institutions. To address this situation, the National Commission of Excellence in Education (1983) emphasized the importance of lifelong learning and called for an extension of learning opportunities beyond traditional institutions into homes, workplaces, libraries, museums, among other places. According to Desjardins, Rubenson, & Milana (2006), there is a risk of permanent exclusion or marginalization of segments of the population. Wider access to learning opportunities can reduce inequalities in living conditions as well as promote higher labor market rewards.

A case exists for the need to encourage participation in learning activities especially for populations that have been left behind. The benefits for participation in lifelong learning at the societal and individual levels are immense. Lifelong learning has the potential of producing not only knowledgeable and skilled workers who will increase the economic competitiveness of a
nation, but also more fulfilled, aware and socially cohesive citizens (Tight, 1998a). The threat of economic and social exclusion hovers around those who do not take the responsibility to participate in learning throughout life (Desjardins, Rubenson, & Milana, 2006).

**Participation**

The importance of lifelong learning for achieving societal and personal goals is rarely in doubt. The key to drawing the benefits of lifelong learning is to have as wide a population as possible participating in learning activities continuously. In lifelong learning literature, there are calls for an understanding of non-participation and under-participation in learning opportunities. Tight (1998a) identified nonparticipation as a key problem in lifelong learning. Tight (1998b) cites the work of three national committees in the United Kingdom (The Widening Participation Committee chaired by Helena Kennedy; The National Committee of Inquiry into Higher Education chaired by Ron Dearing; and The National Advisory Group for Continuing Education and Lifelong Learning chaired by Bob Fryer) which in 1997 produced three reports (the Kennedy, Dearing and Fryer Reports) with policy recommendations on lifelong learning and without exception they all identified non- and under-participation as a key problem. Norman & Hyland (2003) called for a widening of participation to include those underrepresented in learning activities, not just increasing participation.

Merriam, Caffarella, and Baumgartner (2007) reviewed six National Center for Education Statistics (NCES) surveys of adult participation in education and noted that there was an overall trend of increase in participation from a low of 10% in 1969, to 46% in 1999. Whereas the trend shows an overall increase in participation in adult education activities, the trend also shows that some groups are left behind. These groups are Hispanics, those with lower level of education, those with lower status jobs, and those employed part-time. Desjardins, Rubenson, and Milana (2006) after studying cross-national patterns of adult learning noted that adults with the
following characteristics are less likely to participate in adult education: older adults; women; low socio-economic backgrounds; less educated; less-skilled and in low-skill jobs; unemployed; minorities and immigrants.

Inspired by international debates on lifelong learning, most governments and educational institutions introduced policy changes to encourage and embrace lifelong learning practices. The policy initiatives have largely focused on enabling a wider access to learning opportunities for all. Lifelong learning studies have been commissioned and papers published by the European Commission (Towards a Learning Society), Germany (a series of reports), Dutch, Norwegian, Finnish, British and Irish governments (Field, 2000a). A key issue among these papers was how to increase participation in lifelong learning programs. The Lifelong Learning Act of 1976 in the United States was created to help improve learning opportunities for individuals (Richardson, 1978). Increased flexibility in further education institutions has also helped overcome some of the institutional barriers thus increasing participation (Norman & Hyland, 2003).

**Problem Statement**

There is a new urgency to develop a better understanding of why some adults participate in lifelong learning and others do not (Rubenson, 2001, p.1). Studies focusing on lifelong learning policies have focused more on what the government and educational providers should do to enhance participation. Richardson (1978), in noting that problem, states that most of the lifelong learning approaches have focused on programs rather than learning and learners. In lifelong learning, emphasis is placed on the role of individual adults taking charge of their learning (Tight, 1998b). According to Field (2000a), “it is not the government that will produce more learning among the people, but citizens” (p. 23). It is an issue which requires citizens to act. Jakobi (2006) asserts that learning is an activity that has to be managed individually, at least according to the recent debates in lifelong learning. There are a multitude of studies focusing on
lifelong learning policies the government and educational providers should adopt. Such have not been matched by studies emphasizing the learner’s point of view.

Some learner-centered lifelong learning studies which have been conducted have focused on developing an operational measure of physician lifelong learning (Hojat, Nasca, Erdmann, Frisby, Veloski, & Gonella, 2003); identifying characteristics of lifelong learners (Livneh & Livneh, 1988); identifying personality traits that might predict lifelong learning (Livneh, 1989); and developing a lifelong learning inventory (Crick, Broadfoot & Claxton, 2004). These studies, while offering great insights into lifelong learning from the learner’s point of view, have some limitations. Hojat et al (2003) for instance developed a lifelong learning instrument specific to physician’s-work-related learning only. Livneh (1989) used an operational definition of lifelong learning as number of hours per month engaged in learning activities for gaining professional skills. This vocational orientation elides learning activities engaged in for social or personal reasons which still constitute part of lifelong learning.

The issue of readiness to engage in learning has also taken root in lifelong learning literature. “When we consider the central role that lifelong learning is assumed to play in the overall welfare of individuals, communities and society, then the readiness of adults to engage in it becomes a key issue” (Rubenson, 2001, p.1). The issue of readiness to engage in lifelong learning becomes important especially if you consider participation patterns discussed earlier. Studies that have taken the route of investigating the readiness of adults to engage in lifelong learning have used an operational measure of self-directed learning readiness. Such studies that have used a measure of readiness for self-directed learning to indicate readiness for lifelong learning include Litzinger, Wise, Lee, Simpson and Joshi (2001), Shokar, Shokar, Romero and Bulik (2002) and White (2001). This kind of operational measure is suggested in adult learning literature. The applicability of the self-directed learning concept to lifelong
learning has been discussed in writings and research (Merriam, Caffarella, & Baumgartner, 2007). Self-direction is taken to be both a goal and method in lifelong learning (White, 2001). Self-directed learning is the most common way in which adults undertake learning. However this conception of lifelong learning readiness leaves out at least two other concepts that may have applicability to lifelong learning readiness. A literature review supported the conceptual addition of adult’s readiness to respond to triggers for learning and readiness to overcome deterrents to participation concepts to the lifelong learning readiness concept. Adult engagement with learning is preceded by some triggers for learning (Aslanian & Brickell, 1980a; Jarvis, 1992; Kidd, 1959). Also, to engage in learning, adults often have to overcome some barriers to participation. A number of barriers can lead to non-participation even though the learner may want to participate (Desjardins, Rubenson & Milana, 2006). Hassan (1981) found a significant negative correlation between the number of obstacles perceived by adult learners and their readiness for self-direction in learning.

This study conceptualizes readiness for lifelong learning as incorporating aspects of adults readiness to respond to triggers for learning, their self-directed learning readiness and their readiness to overcome deterrents to participation in learning. Conceptually, a lifelong learner should be able to identify triggers known to cause adults to learn as points in which they would engage in learning; be able to self-direct their own learning (since that is how most adult learning occurs); and be able to identify themselves as being able to overcome known deterrents to participation in learning.

**Purpose of the Study**

The main purpose of this study is to explore and determine the degree of readiness for lifelong learning of adult volunteers affiliated with a 4-H Youth Development Program in the southern region of the United States.
Research Objectives

1. To describe adult volunteers affiliated with a 4-H Youth Development Program in the southern region of the United States on the following demographic characteristics:
   a) Age
   b) Gender
   c) Ethnicity
   d) Highest educational level completed
   e) Yearly net income
   f) Marital status
   g) Presence of children at home
   h) Employment status
   i) Length in current employment position
   j) Current occupational category
   k) Whether or not volunteer’s current employment requires continuous certification
   l) Number of times respondent has changed jobs in the last five years
   m) Length of time volunteering, and
   n) Format in which respondent prefer learning

2. To determine the readiness for lifelong learning of adult volunteers affiliated with a 4-H Youth Development Program in the southern region of the United States as measured by the Readiness for Lifelong Learning Scale

3. To determine whether differences exist in the readiness for lifelong learning as measured by the Readiness for Lifelong Learning Scale on selected demographic characteristics which include:
   a) Gender
b) Ethnicity

c) Highest educational level completed

d) Yearly net income

e) Marital status

f) Presence of children at home

g) Employment status

h) Current occupational category

i) Whether or not volunteer’s current employment requires continuous certification

j) Format in which respondent prefer learning

4. To determine if a model exists which would explain a significant portion of the variance of readiness for lifelong learning as measured by the readiness for lifelong learning overall item mean score and the demographic characteristics of age, gender, ethnicity, highest educational level completed, yearly net income, marital status, length in current employment, and format in which respondents prefer learning.

**Significance**

There is a paucity of studies investigating the readiness of adults to engage in lifelong learning. The results from this study will contribute to this limited body of knowledge. Prior studies of lifelong learning readiness have largely focused on learning for occupational reasons. This study goes beyond that by considering learning for the home and leisure spheres of adult life. It does this by incorporating the specific needs that lead to participation in learning in the conceptualization of readiness for lifelong learning.

According to Livneh and Livneh (1988), “the responsibility and obligation of individual students, the professional school, the professional association, and educators are to develop professionals who are lifelong learners” (p. 638). Being able to assess readiness for lifelong
learning contributes to that obligation of developing lifelong learners by helping identify individuals with that orientation. There is the possibility that lifelong learning may be an integral component of employability in the future. This study will contribute to other efforts directed at assessing the readiness for lifelong learning of potential employees.

**Definitions of Terms**

The following definitions of terms are offered to assist in the understanding of the study.

**Lifelong learning:** Refers to the acquisition of necessary knowledge, skills and attitudes to overcome challenges or take advantage of opportunities which present themselves in an individual’s life by moving in and out of learning opportunities (Cross and Hilton, 1983).

**Learning trigger:** Refers to an event related to a past, present or anticipated change in life of an individual that requires new knowledge or skills to deal with. It is a change in an important sphere/area of an individual’s life that creates a need to learn.

**Learning opportunity:** Refers to the various ways in which people engage in learning such as enrollment full-time or part-time in a college or vocational school, attending seminars and workshops within the community, training at places of employment, television courses, independent reading/study projects (library or online), correspondence courses, mentoring, goal-directed informal learning from colleague or friend among other ways.

**Self-directed learning:** Refers to a process where the learner assumes responsibility for planning, implementing, and evaluating a learning experience (Brockett, 1984).

**Deterrent to participation:** Refers to reasons contributing to adult’s decision not to engage in learning activities (Scanlan, 1986).

**Readiness for lifelong learning:** Refers to a concept involving a readiness to respond to triggers for learning, self-directed learning readiness and a readiness to overcome deterrents to participation in learning.
CHAPTER 2

REVIEW OF RELATED LITERATURE

In this study, readiness for lifelong learning is conceptualized as incorporating readiness to respond to triggers for learning, self-directed learning readiness and readiness to overcome deterrents to participation in learning. This chapter aims at reviewing the literature on those three dimensions. Before a discussion of those three dimensions, the lifelong learning concept is introduced.

Learning Defined

From the times of Plato and even earlier, the study of learning has preoccupied myth-makers and scholars (Jarvis, 1992). It is a concept which defies precise definition (Knowles, Holton & Swanson, 2005). Illeris (as cited in Merriam, Caffarella & Baumgartner, 2007) defines learning as a process that brings together cognitive, emotional and environmental influences and experiences for acquiring, enhancing, or making changes in one’s knowledge, skills, values, and worldviews. Learning is the process of acquiring new knowledge and expertise (Swanson & Holton, 2001). Jarvis (1992) views learning as a process of transforming experience into knowledge, skills, attitudes, values and beliefs. It involves giving meaning to experience. Learning results in changes in behavior, knowledge, attitudes and beliefs whether occurring formally or informally (Merriam & Clark, 2006).

Learning is distinct from education. It is wider than education (Jarvis, 1992). Education is an activity initiated by one or more agents with the desired effect being changes in knowledge, skills and attitudes of individuals, groups or communities (Knowles, Holton & Swanson, 2005). Education emphasizes the educator while learning emphasizes the individual in whom the change will take place. Learning is an experience of an individual while education is a social activity (Lalage, 2000).
Generally speaking, learning can occur through formal, informal or incidental means. Formal learning is typically institutionally-sponsored, classroom-based and highly structured (Marsick & Watkins, 1997). It is organized and conducted by an institution or agency (Spear & Mocker, 1984). The content to be learned and the manner in which it proceeds are externally determined. Informal learning is not highly structured and control of learning rests primarily in the hands of the learner. Informal learning also includes incidental learning, which is an accidental by-product of another activity (Marsick & Watkins, 1997).

**Lifelong Learning Defined**

Lifelong learning is a term used widely in educational discourse and has a range of meanings (Crick, Broadfoot, & Claxton, 2004). It is a term “fraught with difficulties” (Jarvis, 1992, p. 9). Lifelong learning is conceptualized as being a cradle to grave activity (Broschart, 1977; Cropley, 1980; Jackson, 2003; Merriam & Brocket 1997). The idea of education being confined to childhood, which Tight (1988b) calls “front-end” education, is hereby distinguished from involvement in learning throughout life. In an attempt to include all learning that occurs throughout life, such a definition introduces a hard to conceptualize, amorphous, boundary-less learning.

Lifelong learning is differentiated from lifelong education. Cropley (1980) asserts that learning is internal to the individual while education refers to the experiences which shape learning. Lifelong learning is considered to be broader than lifelong education. It extends beyond formal education providers (Cropley, 1980). It includes learning which occurs in educational institutions, workplaces, homes, community and voluntary organizations (Jackson, 2003). Public schooling and adult and continuing education institutions are not exclusive players (Merriam & Brocket, 1997). All systems share the responsibility for helping people educate themselves (Houle, 1973). Some of the settings for lifelong learning include university, community colleges,
According to Richardson (1978), lifelong learning refers to the process by which “individuals continue to develop their knowledge, skills and interests throughout their lifetimes” (p. 15). It involves using both formal and informal learning opportunities to meet learner needs at each stage of the life cycle. Hiemstra (as cited in Livneh & Livneh, 1988) defines lifelong learning as a process that continues throughout one’s lifetime depending on individual needs, interests and learning skills. It is the intentional and self-directed pursuit of learning for continuing personal growth (White, 2001). It is all purposeful learning undertaken on an ongoing basis aimed at improving knowledge, skills and competence (Nijhof, 2005). Hojat et al. (2003) defined lifelong learning as “a concept involving a set of self-initiated activities (behavioral aspect) and information-seeking skills (capabilities) that are activated in individuals with a sustained motivation (predisposition) to learn and the ability to recognize their own learning skills (cognitive aspect)” (p. 434).

Though consensus on a specific definition of lifelong learning is yet to be achieved, there is consensus that learning should continue throughout people’s lives. Most researchers provide specific definitions in individual studies (White, 2001).

The lifelong learning definition for this study is adapted from Cross and Hilton (1983) and is stated as the acquisition of necessary knowledge, skills and attitudes to overcome challenges or take advantage of opportunities which present in an individual’s life by moving in and out of learning opportunities.
What Counts as Lifelong Learning

Lifelong learning may have the appearance of a nebulous concept. It occurs in a myriad of manners and in a variety of settings. To the naked eye, it may appear as if it had no boundaries.

Lifelong learning is differentiated from other forms of learning due to its deliberate and intentional nature. It involves a conscious decision to engage in a learning opportunity or activity. Even as it occurs in a variety of settings and ages, Cropley and Dave (1978) and Houle (1973) identified it as being purposeful. It’s not just a mass of random learning; individuals apply order to it (Lalage, 2000). According to Cropley (1980) such learning is “accompanied by a deliberate attempt to learn, awareness that learning is occurring and systematic attempts to facilitate it” (p. 2). All deliberate learning activities are included in lifelong learning (Richardson, 1978). It has to have what Tough (1979) calls a deliberate desire to gain and retain certain knowledge and skill.

According to Schuetze (2007), lifelong learning also has to be lifelong and life-wide. Lifelong captures the essence that it is a learning that occurs throughout life. Life-wide regards the notion that it is a learning that occurs outside formal educational institutions and programs, and covers more than work-related outcomes. As will be discussed later, viewing lifelong learning as being instrumental in helping people address challenges or take advantage of opportunities as they arise in their lives addresses the lifelong and life-wide characteristic of lifelong learning. Kidd (1959), for example, sees learning as preparing people to meet their social roles. Fischer (1999) sees lifelong learning as occurring in the context of work or real world problems.

The above descriptions give us some clarity as to the nature of lifelong learning. Whereas it is a process in which one may engage at all ages, in a multitude of settings, the intent on the
part of the learner has to be present. Lifelong learning is intentional, deliberate and purposeful whether it occurs in the workplace, on campus, at home, through formal or non-formal organizations, through traditional or non-traditional methods, or through the self-directed efforts of an individual (Richardson, 1978). It is also linked to life challenges or opportunities making it lifelong and life-wide. It is life-wide since it addresses learning beyond formal programs and it is directed at more outcomes than the traditional vocational or work–related outcomes.

**The Case for Lifelong Learning**

The necessity for lifelong learning is rarely challenged. The reasons for justifying lifelong learning may vary, but its importance is perennial in the widespread discussions and debates. A lifelong learning society is often deemed as an overall ideal that ought to be pursued.

Richardson (1978) sees a lifelong learning society as being composed of three elements:

- Individuals who foster their own growth and development;
- Local providers who collaborate in offering learning resources; and
- Federal, state and local governments which pursue policy strategies directed towards encouraging individual growth and enriching learning opportunities.

At the heart of calls for lifelong learning is a perceived need for individuals and nations to remain competitive in a global economy characterized by constant change and rapid technological development. According to Field (2000a), politicians view knowledge as the most important source of future advantage. Houle (1973) and United Nations Educational Scientific and Cultural Organization (UNESCO, 1975) pointed out the obsolescence of knowledge, rapid growth of new knowledge, multiplication and complexity of social problems as reasons why lifelong learning was a necessity. These factors would compel individuals to renew their learning throughout their lives (UNESCO, 1975). Peterson (1979) noted changes in traditional patterns of work and family life such as an increase in number of divorcee mothers joining the
workforce and increases in job changing in mid-career which required learning in order to adapt. Cropley (1977) includes goals of using lifelong education to promote equal access to social, economic and political advantages. McCombs (1991) identifies the need to continuously learn and retrain in order to develop qualified people for available jobs. Some of the push factors she identifies include deficiencies in basic reading, writing, and mathematical skills among the population, adaptability necessitated by changing demands of today’s workplace, and shortened product life cycle which may mean that future jobs would have to be restructured about every seven years. West (2006) calls an illusion the notion of a job for life. People have to be responsive and flexible to a changing labor market to survive. Fischer (1999) identifies problems in this age which can be addressed by lifelong learning as lack of creativity and change, coping with change and insufficiently supported school to work transition. More recently, Mulder and Bayer (2007) cite the changing content of work occasioned by economical and technological developments as the reason why lifelong learning is indispensable.

Jackson (2003) summarizes the two strains of discussion which underlie the debates on the importance of lifelong learning. There is the individualist view in which lifelong learning is seen as a vehicle for individual fulfillment and provision of equality of opportunity. On the other hand, lifelong learning promotes the development of human capital which is believed to be the key to promoting success in a knowledge economy. The twin reasons supporting lifelong learning policy are the development of vocational skills for economic competitiveness and the fostering of inclusion and cohesion (Norman & Hyland, 2003). Lifelong learning has the potential of producing not only knowledgeable and skilled workers who will increase economic competitiveness of a nation, but also more fulfilled, aware and socially cohesive citizens (Tight, 1998a). The importance of lifelong learning for achieving societal and personal goals is not in doubt.
A Brief History of Lifelong Learning

Lifelong learning as a concept is not new. The concept of learning throughout life is mentioned in ancient writings (Cropley, 1980). Early Islamic writings encouraged believers to seek knowledge at all ages. African societies institutionalized learning phases which continued until one became an elder (Lelage, 2000). There are examples of men and women who continued to learn until the end of their days in Greek, Roman, and Renaissance periods in the western world (Kidd, 1959).

In Europe and North America, Lalage (2000) traces the idea of lifelong learning to movements for freedom in the 1900’s noting that an uneducated man, however well endowed in health and wealth, is still a slave to other people’s opinions. The emphasis was education for all as a necessary condition for human development. Field (2000a) traces its earliest discussions to the end of World War One, influenced by the debates held at the time about the extension of citizen rights to women and to working class men.

Lifelong learning took center stage in international political discussions in the sixties and seventies (Mulder & Bayer, 2007). It was however a preserve of educational specialists meeting under intergovernmental bodies such as the United Nations Educational, Social, and Cultural Organization (UNESCO) and the Organization for Economic Co-operation and Development (OECD) (Field, 2000a).

Inspired by international debates on lifelong learning, most governments and educational institutions introduced policy changes to encourage and embrace lifelong practices. Governments were attracted to the idea of maintaining economic competitiveness through lifelong learning. Despite the increased debates and widespread policy actions, according to Lalage (2000), lifelong learning is far from reality in any present day nation.
Lifelong Learning Policy

Lifelong learning has continued to be placed at the center of many government’s agenda for education and training (Field, 2000b). Many nations have funded studies and came up with policy statements aimed at entrenching lifelong learning as a practice in their institutions as well as populations. Lifelong learning papers have been published by the European Commission (Towards a Learning Society), Germany (a series of reports), Dutch, Norwegian, Finnish, British and Irish governments (Field, 2000a). A key issue among these papers was how to increase participation in lifelong learning programs.

According to Richardson (1978), the Lifelong Learning Act of 1976 in the United States was created to help improve learning opportunities for individuals. The Act emphasized federal support for learning opportunities such as adult basic education, continuing education, occupational and job training, parent education, special programs for individuals or groups with special needs among others. Federal financial support and most states focused more on postsecondary institutions than on less formal/traditional settings. What was lacking was support for an enlarged network of learning opportunities. Such a narrow focus on traditional postsecondary systems may provide a clue as to why policy in the United States has not resulted in increased participation. Whereas policy provided structure, it probably failed by not being responsive to most of the adult learners’ needs, thereby decreasing participation.

In the United Kingdom, in 1997, the incoming Labor government appointed Dr. Kim Howells the country’s first minister of Lifelong Learning (Field, 2000a). Three national committees (The Widening Participation Committee chaired by Helena Kennedy; The National Committee of Inquiry into Higher Education chaired by Ron Dearing; and The National Advisory Group for Continuing Education and Lifelong Learning chaired by Bob Fryer) were also created which in 1997 produced reports (Kennedy, Dearing and Fryer Reports) focused on
influencing lifelong learning policy. They all endorsed the ideal of lifelong learning and the need for engagement in it by as many members of the society as possible (Tight, 1998b). The Kennedy Report of 1997 was charged with looking for ways of widening participation in further education especially those for whom achievement rates are less than the norm. The Dearing Report of 1996 looked into ways in which the purpose, shape, structure, size and funding of higher education could be developed to meet needs of the UK in the subsequent 20 years. The Fryer Report of 1997 was concerned with how to create a lifelong learning culture for all in the 21st century (Tight, 1998a). All three reports identified non- and under-participation as a key problem. They came up with a similar set of under-participating groups, as well as identified parallel strategies for action (Tight, 1998b). The three reports culminated in a consultative paper in 1998 by the Secretary of State for Education titled The Learning Age, which highlighted specific policy initiatives based on the earlier reports. Some of the policy commitments included an extra 500,000 places in higher education, launching a university for industry, individual learning accounts with 150 million pounds to support one million people among other initiatives. There was an emphasis on formal, accredited and vocationally relevant forms of provision (Tight, 1998b). The European Commission published its own white paper on education and training subtitled “Towards a Learning Society” (Field, 2000a) also focused on promoting lifelong learning in the European Union.

China as a country has undergone enormous change in the recent past. According to Merriam, Caffarella, and Baumgartner (2007), the Sixteenth Congress of the Chinese Communist Party in 2002 declared that China would work towards promoting lifelong learning and creating a learning society. The government set up sixty-one experimental learning communities throughout the nation with the aim of encouraging people of all ages to make learning a priority in their lives. The centers engage people of all ages in nonformal and informal learning.
According to Field (2000a), Japan in policy offers a broader and more comprehensive approach to lifelong learning. In 1990, the Japanese government passed a law concerning the Development of Mechanisms and Measures for Promoting Lifelong Learning. An advisory board for lifelong learning was also created, which published recommendations to be adopted by universities, schools, local authorities, and other bodies. Japan’s approach was unique because its recommendations aimed at promoting opportunities for individual lifelong learning, and not just vocational education and training. In the policy, “flower arranging classes were promoted alongside access to new technologies; older adults were at least as much a focus as were employees or job seekers” (p. 30). But Field (2000a) continues to note that this legislation was no radical departure from existing practice. It was much in tandem with what is referred to as Social Education in Japan. There were also broader economic concerns with this move, two of which were the desire to create a cultural climate in which individuals took responsibility for their own development and the need to tackle an alleged lack of creativity in their workforce.

The importance of lifelong learning to the economy and to individuals is not in doubt. The overriding theme of debates on lifelong learning has been to provide and enable access to a variety of learning opportunities, in a variety of settings in order to enable individuals to participate in the knowledge economies and also to lead fuller lives by meeting their personal developmental needs. For a long time the mainstream debates have embraced humanistic ideals of promoting equity. However, when it comes to policy, the broad view of lifelong learning is replaced with a narrower perspective on vocational education and training.

According to Field (2000a), policy endorsement of lifelong learning is universal, but its implementation is patchy except when dealing with the skills of the workforce. Tight (1998b) adds that whereas rhetoric may have seemed inclusive, formal, accredited and vocationally-relevant forms of provision received more emphasis in policy. There has been a reduction from
the humanistic goals pursued in the 1960’s to mere economic imperatives (Nijhof, 2005).

Kathryn (1999) adds that learning for economic competitiveness is what policy focuses on despite espoused commitments to diverse purposes of lifelong learning. This narrowing of focus of policy to formal programs and the sharpened focus on work-related skills may partly explain why the goals of lifelong learning originally envisioned as broad have not been achieved.

Governments confine themselves to vocational training since it has considerable legitimacy and also it is one of the areas that governments feel impelled to act (Field, 2000b).

The multitude of studies focusing on lifelong learning policies the government and educational providers should adopt have not been matched by studies emphasizing the learner’s point of view.

**Lifelong Learning Empirical Studies**

A number of studies have focused on trying to understand lifelong learning from the point of view of learners. Studies mostly focused on identifying and describing the personal and professional characteristics of lifelong learners, as well as attempting to build a profile of lifelong learners based on identified characteristics (e.g. Livneh & Livneh 1988; Livneh, 1989). Such studies were driven by the assumption that to be able to encourage or develop lifelong learners, it is imperative that we be able to describe such learners and know their characteristics (Livneh & Livneh, 1988). An instrument which can identify characteristics common to lifelong learners can be used to assess the presence of such characteristics in other subjects (White, 2001). Such instruments can aid in making hiring, training, or other work-related decisions, especially in careers that require workers be lifelong learners. Others have focused on investigating self-direction in lifelong learning, attempting to bring those two concepts together (White, 2001).
Livneh and Livneh (1988) conducted a study among human service professionals aimed at differentiating lifelong learners and low participants in learning. They also focused on developing a profile of lifelong learners in the human service professions. The Characteristics of Lifelong Learners in the Human Service Professions (CLLP) survey was administered to human service professionals who included social workers, teachers or professors, counselors, psychologists, private practitioners and nurses. Also measured were demographic variables (such as marital status, father’s educational background, participant job position) and number of hours per month spent in a variety of learning activities during the past one, three and five year periods.

In distinguishing lifelong learners and low participants in learning, a factor analysis of the CLLP was conducted. It revealed seven factors including:

- Professional growth through learning (I believe keeping updated and competent in my profession is important)
- Self-motivated achievement (I am achievement motivated, determined to do well in my endeavors)
- Educability (I have an interest in reading)
- Readiness for change (I am able to cope with career and occupational changes)
- Causation for learning participation (I became involved in opportunities for learning during times of personal crisis)
- Familial educational background (My parents participated in learning)
- Future orientation (I have a desire to advance my job)

Of the seven factors, only five were identified as possible predictors of involvement in learning activities over the past five years (lifelong learning status). The low participants appeared to be deficient in these characteristics. These were Educability, Readiness for change, Causation for participation, Familial background and Future orientation.
Only educability and future orientation were significantly different between high and low participants in lifelong learning. According to Marra, Complese and Litzinger (1999), the factor analysis did not predict enough of the actual measured variance in lifelong learning to create a usable profile. Livneh and Livneh (1988) asked readers to interpret the findings with caution as the measure for participation in learning activities used in this study was gross (number of hours spent per month in learning activities during the past five years). The measure relies on the respondent’s ability to recall an extended list of events over a long period of time. The measure of learning includes both specific professional learning and personal growth activities.

Livneh (1989) developed the Adjective Check List instrument that could be used to identify personality characteristics which can predict lifelong learners in the human service professions. The idea was to develop an instrument which could identify personality traits which might predict the amount of time spent in lifelong learning among human service professionals. In other words, the study sought to identify characteristics that can predict lifelong learning.

A factor analysis revealed six interpretable factors including:

- Extroverted/introverted which had adjectives such as opinionated, argumentative, aggressive, assertive, and persistent, among others
- Social desirability which had adjectives such as dependable, conscientious, cooperative, and fair minded, among others
- Organized with adjectives such as methodical, stable, rigid, patient, and logical among others
- Self-centered had adjectives such as demanding, self-pitying, submissive, and rebellious
- Reflective was associated with adjectives such as quiet, reserved, cautious, original, and insightful among others
• Adventurous had adjectives such as spontaneous, impatient, excitable, energetic, and clever, among others

Only the factor “organized” was significantly correlated with time spent in learning activities. Most of the personality variables explained very little variance in hours spent in learning activities. Livneh (1989) attributes the results to the gross measure of learning as hours spent per month in learning activities. The Adjective Check List may share overlapping adjectives which may reduce the viability of the factorial structure. Overall the study was not successful in identifying personality characteristics which can predict hours spent in learning or engagement in learning. According to Marra, Complese and Litzinger (1999), the studies by Livneh (1989) and Livneh and Livneh (1988) which aimed at producing lifelong learning predictive instruments for the human service professions produced inconclusive results.

Crick, Broadfoot and Claxton (2004) developed an instrument, the Evaluating Lifelong Learning Inventory (ELLI) which could identify elements of an individual’s capacity for lifelong learning. The study identified seven dimensions capable of differentiating between efficacious, engaged and energized learners and passive, dependent and fragile learners. According to Crick, Broadfoot and Claxton (2004), a person’s learning orientation involves a complex mix of experience, motivation, intelligences, and dispositions. No instrument has been designed to assess the qualities which make up an individual’s capacity for lifelong learning. Their study aimed at identifying elements which define a good learner, and eventually designing an instrument which could assess an individual’s location at a given time on those elements. It aimed at identifying an individual’s lifelong learning orientation. They identified five dimensions of learning which include:

• Learner commitment and engagement (growth orientation, meaning making and critical curiosity)
• Fragility and dependence
• Creativity
• Learning relationships (independence, dependence or interdependence)
• Strategic awareness

The Crick, Broadfoot and Claxton (2004) study was critical in that the researchers were able to identify some main dimensions on which learners differ. The instrument could be used to differentiate learners based on their orientation to learning. However since this was a self-reported study, they identified a need to link these dimensions with more conventional measures of learning achievement. Also, the study involved respondents who varied in age (ranging from 6 years to participants in an Adult Vocational Program who were 18+). According to Merriam and Brockett (1997), adults differ from children in terms of how they learn.

Marra, Complese and Litzinger (1999) view it as an imperative for graduates to demonstrate some recognition of the need for lifelong learning and have the ability to engage in it. They present the results of a survey they did on engineering graduates where the respondents affirmed an understanding of the need to engage in lifelong learning and also admitted to pursuing it in a number of ways. For example, 90% of respondents believed that the ability to teach oneself new skills at work was very important. Most believed they could teach themselves new skills needed on the job. Subscription to professional journals and participation in professional societies was done by at least 50% of the respondents. However, they called for an understanding of how students developed the necessary attitudes and skills. This may be revealed by an investigation of curricular and extra curricular activities in undergraduate education which promote the understanding and ability to lifelong learn.

Hojat et al (2003) developed an instrument to measure physician lifelong learning and to identify its underlying components. The instrument was designed to measure lifelong learning
specifically for physicians. In their analysis they concluded that physicians’ lifelong learning is a multi-dimensional construct with five underlying factors/components. They include need recognition (cognitive), research endeavor (capabilities), self-directed learning activities (behavioral), technical or computer skills (skills), and motivation (predisposition). There was no significant difference between men and women on components of lifelong learning except for research endeavor. Physicians who published papers, presented findings at professional meetings, or collaborated in the conduct of research obtained higher mean scores in each of the five factors than those not involved in those activities.

Hojat et al. (2003) also associated various factors with lifelong learning activities relevant to medical practice. For instance, self-initiation/self-directed component was associated with relevant activities such as receiving research grants, receiving professional awards or honors, journal editorial activities and serving as journal reviewers. Personal motivation component of lifelong learning was associated with holding office in national professional organizations, journal editorial activities, serving as a manuscript reviewer, and presenting research findings in public media or community groups. They called for an examination of these factors using more specific and relevant external criterion measures. They concentrated on lifelong learning for career purposes.

Gopee (2003) conducted a study on nurses perceptions of lifelong learning at both the conceptual and practical levels. The focus here was on how nurses perceive the notion of lifelong learning and day-to-day factors which would facilitate its implementation among registered nurses. The qualitative study revealed three sets of factors which could foster lifelong learning in nursing. They include organizational, socio-political and individual or personal factors. If the three are taken into account at an operational level, lifelong learning is likely to become a reality.
Lifelong learning is a requirement for trainers. They have to keep developing their competencies to cope with ongoing developments in society and meet the changing demands of their clients. Mulder and Bayer (2007) investigated the relationship between trainers’ attitudes towards lifelong learning and their competencies. They also investigated trainers’ attitudes towards lifelong learning and the need that trainers feel for training. They found that the trainers generally had a high attitude towards lifelong learning and that they rated their competencies highly. They found a positive relation between trainers’ attitudes and their competencies. Hence it is likely that trainers who had a positive attitude towards lifelong learning took care of their competencies. There was no clear relation between the attitudes and the needs for training.

Lifelong learning studies have not just concentrated on vocational concerns. In a study linking lifelong learning and some health outcomes, Hammond (2004) found that participation in lifelong learning had effects on wellbeing, protection and recovery from mental illness and capacity to cope with the onset and progression of chronic illness and disability. Participation also had an effect on psychological qualities such as social integration, self-efficacy, self-esteem, competencies, and a sense of purpose and hope. These are the immediate psychosocial outcomes which mediate and promote circumstances conducive to positive health outcomes.

The focus of most studies has been identifying personal characteristics or qualities that could be used to predict participation in lifelong learning. These characteristics could be used to distinguish lifelong learners from non-participants based on the presence or absence of such characteristics. This is an earnest approach to investigating participation by looking for qualities associated with lifelong learning participation.

Some studies have used self-directed learning as an organizing concept for lifelong learning. An investigation by White (2001) using the Oddi Continuing Learning Inventory (OCLI) found no significant difference on lifelong characteristics between small group bible
study participants and non-participants. The relationship between lifelong learning and participation in small groups was not supported. He also found that participation was motivated by establishing community and encountering new ways of thinking rather than content acquisition.

An assessment of self-directed learning readiness was used to indicate readiness to engage in lifelong learning (e.g. in Litzinger, Wise, Simpson, & Joshi, 2001; Shokar, Shokar, Romero & Bulik, 2002; and White, 2001). An assessment of lifelong learning readiness which includes assessing readiness to respond to learning triggers, self-directed learning readiness and readiness to overcome barriers to participation in learning is undertaken in this study.

**Readiness to Respond to Triggers for Learning**

The main impetus for the lifelong learning movement is that it enables individuals and countries to deal with the challenges associated with constant change and global competition. Lifelong learning is seen by many as being essential for the survival and effective functioning of individuals in their workplace, at home and in their personal lives especially in the current environment characterized by constant change. Countries have adopted policies aimed at developing a lifelong learning society, which is viewed as a necessity if countries are to cope in an environment characterized by rapid technological development and global competition. Lifelong learning is thus discussed as being instrumental and necessary, a learning necessitated by the need to cope with constant changes occurring in an individual’s/country’s environment. Adult engagement in learning is instrumental in nature and is characterized by a necessity to learn. It is usually in response to some trigger to learn.

Aslanian and Brickell (1980a) reviewed the literature on adult life cycle in pursuit of a better explanation of the timings of adults’ engagement in learning. Their review included the work of such scholars of life cycle as Daniel Levinson, Roger Gould, George Vaillant, and Gail
Sheehy among others. It emerged that adult life is divided into stages through which adults pass at relatively fixed times. The stages are rooted in the biological, social and psychological nature of adult human beings. Passing from one stage to another involves a significant transition which poses challenges and offers opportunities for growth. Transition to a different status or stage requires learning of new knowledge, skills, attitudes and values. The learning can be self-directed or other directed. There are also psychological and biological (internal) events and social and economic (external) events which may trigger learning. It is the triggers, changes in life circumstances, which cause the decision to learn at a particular point in time. An individual may be willing to transition to another stage or status, but not take up learning to enable that transition, till a trigger precipitates it. Most adults Aslanian and Brickell (1980a) surveyed, regardless of their demographic characteristics, identified their own changing circumstances as their reasons for learning.

People learn when some events trigger a need to learn or a need to learn arises. Adult learning scholars such as Kidd (1959), Aslanian and Brickell (1980a), and Jarvis (1992) among others, have written that adult engagement with learning is preceded by some triggers for learning. Some of the triggers emanate from changing adult life circumstances. According to Aslanian and Brickell (1980a) opportunity to learn and even desires are not sufficient to cause most adults to learn. A triggering event has to occur that converts latent adult learners into active learners. This view is supported by Jarvis (1992) who asserts that experiencing a need or want to learn does not necessarily result in participation in learning activities. He contends that non-learning is a fairly common phenomenon even when a need to learn has been experienced. Participation in learning given the presence of triggers is not automatic. It involves a decision to engage in a learning activity.
A learning trigger is defined as an event related to a past, or present anticipated change in life of an individual that requires new knowledge or skills. It is a change in an important sphere/area of an individual’s life that creates a need to learn. A trigger is an event that causes learning to occur at a particular time rather than later (Aslanian & Brickell, 1980a). Triggers are considered to be circumstances which act as catalysts to learning (Knox & Videbeck, 1963). Learning is thus instrumental in that it enables adults to make necessary adjustments and cope with changes in life circumstances.

Knox and Videbeck (1963) discussed critical changes in life circumstance such as starting a new job, marriage, birth of a child, a move to a new community, retirement as being useful in explaining participation in learning. Tough (1979) asserts that adults set out to learn when confronted with decisions of intense personal importance. Examples of such include choosing a career, deciding which university to enter, considering whether or whom to marry, selecting a place to live or planning for retirement. They move people towards learning.

A nationwide study by Aslanian and Brickell (1980a) seeking to understand the causes and timings of adult learning showed that 83% of learners surveyed described some past, present or future change in their lives as reasons to learn. The majority of learning was to help cope with life changes/transitions. Areas of transition mentioned included career (56%), family (16%), leisure (13%), art (5%), health (5%), religion (4%), and citizenship (less than 1%). More adults undertook learning to make career transitions. The survey results showed that the decision to learn at a certain point in time was triggered by a specific event, related to a transition in the survey participant’s life. Transition here is used to refer to movement into a new status that an adult wishes or must enter. Transitions require learning. A trigger is an event that causes learning to occur at the time it does rather than later. Most of the learning that occurred in the above transitions was caused by a trigger. Examples of triggers that necessitated learning in the career
sphere included getting a new job, getting additional responsibilities, purchase of new machinery or getting promoted. In a study of Human Service Professionals, Livneh and Livneh (1988) identified that the “causation for learning participation” was a distinguishing factor between lifelong learners and low participants in learning activities. The most heavily loaded item on that factor was “I became involved in opportunities for learning during times of personal crisis.” Ellinger’s (2005) discussion of informal learning in the workplace identifies both internal and external catalysts for learning. Some of the catalysts she names include challenging assignments and new positions or responsibilities. Adults responding to triggers for learning may be a distinguishing factor between lifelong learners and low participants in learning. Lifelong learners are expected to preponderantly respond to triggers for learning with engagement with learning.

Knowles (1990) detailed six assumptions about adult learners that comprise his andragogical model. At least two of these have pertinence here since they conceptually tie adults’ readiness to learn with life circumstances. The first, which he labeled readiness to learn, involves the idea that adults become ready to learn things they need to know in order to cope effectively with their life situations. He also mentions that developmental tasks are a rich source of readiness to learn. The second assumption is called orientation to learning. He explains that adults will devote energy to learn if they perceive that it will help them perform tasks or deal with problems in their life situations. In other words in their learning adults are task-centered, life-centered or problem-centered. This view supports Tough’s (1979) assertion that studies have shown that “some anticipated use or application of the knowledge and skill is the strongest motivation for the majority of learning projects “ (p. 39). He adds that adults are motivated to learn not to master an entire body of subject matter, but rather to solve fairly immediate problems, tasks or decisions that demand certain knowledge and skills.
Tough (1978) reviewed studies that had been done on adult’s learning efforts and concluded that self-planned learning efforts constitute about 80% of all adults’ major learning efforts. The main motivation for such learning projects was anticipated use or application of the knowledge or skill being learned. Learning a skill is thus undertaken to gain knowledge or skill to perform a task. Examples he gives of such tasks include raising a child, writing a report for a boss, handling a case, fixing something around the house or sewing a dress. Learning knowledge for its own sake is a less common motivation. Learning for certification was rare ranging from less than 1%-15% of all learning projects. Most adults learn not just for the sheer love of knowledge or possession of knowledge, but because they want to use the knowledge (Aslanian & Brickell, 1980b). Implied in these assumptions is that life circumstances can be sources of not only a need to learn but also motivation to learn. In essence, life circumstances which are part of an individual’s environment birth learning needs.

Findsen and McCullough (2007) found that participation in formal learning for older adults was linked with trigger events or episodes in the learners’ lives. Participation was attributed either directly or indirectly to a significantly altered daily routine and circumstance. Approximately half of the respondents identified a recent trigger episode or event that influenced their decision to engage in learning. “The high prevalence of trigger events reported by learners as prompting their decision to engage in formal learning would seem to suggest a strong relationship between such events and learning propensity” (p. 202). The events made people proactively seek a program or become open to suggestions by family and friends.

The Findsen and McCullough’s (2007) study was aimed at investigating the motivations and trigger events for engaging in learning for older adults (aged 50 years or more) in higher education and further education (formal education) since they were minimally represented in higher education institutions especially in West of Scotland. The respondents mostly specified
motivations for participation which had a goal (instrumental) orientation. For the majority of the students participation was either wholly or partly related to life transitions. Forty percent of respondents cited work-related reasons for participation including such reasons as desire to facilitate a career change and achievement of financial security through regular work. Family considerations were identified as a further goal-related motivation that heralded engagement with learning. Learning was undertaken with the desire that it would facilitate sustained or developing relationships. For example some learned computing so they would keep in touch with children in distant lands. Findsen and McCullough (2007) found that motivation “seemed to be responsive to life events and resultant changes to lifestyle and environs” (p.204). Triggers mentioned by students were acutely personal or related to immediate family.

According to Roberson and Merriam (2005), researchers may want to investigate how life stages shape learning, especially self-directed learning. In a study of self-directed learning activities of older adults, they found that their learning pursuits were not just random acts to occupy extra time, but were personal educational pursuits motivated by unique issues in their lives. They engaged with learning to help adjust to changes in their lives.

Merriam (1978) contends that knowledge of adult stages of life can become a valuable resource for diagnosing learning needs. She acknowledges the contribution of the works of Erikson and Havighurst’s (among others) on life-span development in helping understand adults in the middle age and their engagement in learning. Havighurst (1980) saw a “need for different educational goals and practices at different stages in the adult life span” (p. 5). Havighurst presents each decade of life as having attendant dominant developmental tasks the successful achievement of which leads to happiness and success with later tasks, and failure leads to unhappiness and difficulty with later tasks. Erikson developed seven stages based on critical periods of ego development. There are a series of psychosocial tasks that have to be successfully
resolved in these stages failure to which they created problems for later life periods. Havighurst (1980) sees the role of adult education as helping people master developmental tasks of each stage in an adult’s lifespan. Most adulthood tasks come from a combination of social expectations and personal values (Merriam & Mulins, 1981). One may view the transitions that occur in adult life stages as changes in life circumstances which give rise to learning needs. Studying such transitions may help us understand adults’ engagement with learning.

Adults participate in learning based on the assumption that education has a positive value in solving problems (Kidd, 1959). In Kidd’s conceptualization, solving problems or performing in social roles creates a need (trigger) for learning. He sees useful consequences in relating the concept of self-learner to that of social roles. Social roles (such as parent) have tasks that one has to learn to perform. He calls a “teachable moment” that point when one has to learn within a limited time to fill a role. Kidd (1959) asserts that all adulthood is not identical. He decried the lack of studies addressing the full-life development of man in a comprehensive way, at least as it affects learning. In understanding learning needs we need to consider the whole span of life, identifying role-specific learning needs in the various stages of an adult’s life. What we can draw from this research is the importance of considering life-stages and life-roles as spurring the need for learning among adults.

According to Jarvis (1992), learning begins when one encounters experiences for which one has no preset responses. This is when knowledge and skills gained from previous experiences are insufficient to deal with new and unfamiliar experiences. This is a lack of accord between the external world and the internal biographies gathered over time. He calls this a point of disjuncture, which presents an ideal condition for learning. Disjuncture can be self-induced or induced by other factors. Disjuncture can also occur between anticipated experience and one’s biography. Only after they have made a response to the disjuncture either by learning or deciding
that they cannot or do not wish to learn, can life continue normally. The reaction to disjuncture may involve enrollment in some educational course or obtaining resources for other types of learning. Non-learning is a fairly common phenomenon even when disjuncture has been experienced (Jarvis, 1992). He contends that since change occurs in a rapid rate in the modern world, disjuncture is inevitable. Given that disjuncture is inevitable, how one responds to disjuncture (either by learning or not) will be a distinguishing characteristic of lifelong learners. It is conceivable that changes in life circumstances such as getting your first baby or getting promoted may get one to a point of disjuncture which may call for new learning.

In investigating self-directed learning activities of adults who had less than a high school completion, Spear and Mocker (1984) obtained findings that shed more light on the triggering events that set the self-directed learning process in motion. They found that the triggering event for a learning project comes from some change in the life circumstances of an individual. This may be change happening to an individual or someone who affects that individual’s life, and it may be positive or negative. It could also be an event that is observed in the physical, social, or psychological environment (life space) in which an individual functions. The psychological, physical and social elements in that field determine action or human behavior. Spear and Mocker (1984) borrow from Kurt Lewin’s view that to understand human behavior, we should focus on an individual’s life space or field. A simple description of observable behaviors (such as starting a learning project or attending a course) obscures the significance of the circumstances in which it occurred and the meaning of such actions. Spear and Mocker (1984) reported that participants in their study identified changes in life circumstances as the triggers that preceded engagement with a learning project.

Richardson (1978) asserts that people feel a need for learning opportunities during middle and later stages of life to advance their careers, cope with change, learn new skills, and lead
fuller lives. Kidd (1959) gives examples of tasks in the middle age which may involve substantial changes and require considerable learning such as reaching ones career peak, making satisfactory use of leisure time, adjusting to physiological changes, and helping one’s teenagers become responsible adults. Such a list of learning opportunities, he says, can be generated for each overlapping stage of life. Roberson and Merriam (2005) contend that older adulthood, as other life stages, brings with it changes and transitions in work, family and health. In their study, participants raised three main changes in later life with which self-directed learning helped them cope. They include retirement which created a lot of free time they used to pursue self-directed learning opportunities; transitions in one’s family such as friendship with an adult child or dealing with grandchildren; and experiences of social and physical loss such as loss of strength heralded learning about good health, or being widowed, or withdrawing from social activities as a result of retirement. These transitions become the impetus for self-directed learning, a learning undertaken to deal with developmental challenges. Self-directed learning allows older adults to address their individual learning needs in their life stage. In every interview that Roberson and Merriam (2005) conducted, the incentive to learn, the interest in learning and the catalyst was related to late-life change. Knowles as cited in Roberson and Merriam (2005) states that learning is usually in response to ones situation in life and the particular stage in one’s life becomes the context for learning. Merriam and Mullins (1981) conducted a study in which they found that of all adults sampled, nearly all age, income, and gender subgroups considered Havighurst’s developmental tasks as important in their consumption of learning programs.

Rager (2003) found that women diagnosed with cancer depended on self-directed learning to cope. The motivations for them to participate in self-directed learning were to lessen their fear, help make and validate treatment decisions, and understand what was going to happen in their treatment. Those three objectives were achieved, and in addition two more outcomes
were achieved; a growth in self-confidence and the desire to help other breast cancer patients. Hence, self-directed learning helped the women in those difficult circumstances. Missing from the adult education literature is research that describes the impact of a crisis situation on the self-education process (Rager, 2003).

Andruske (2003) studied 23 single women, aged 23-55, who were navigating structures to leave welfare between the years 1998 and 2001. In her study, she found that these women used self-directed learning activities to gain knowledge that enabled them to strategize on ways to gain control over their lives. They used self-directed learning activities to learn about their welfare entitlements, health, their legal rights and employment and work skills. For instance they were able to become political agents by learning about their welfare-entitlements policy in a self-directed manner since welfare workers sometimes failed to inform them about available resources or options. One lady, in an attempt to cut down costs while going through a divorce, spent hours at the law library learning about her rights. She attributes her winning the support she was seeking in her divorce to the skills she learned in her self-directed learning activities. Another lady became an expert on her anxiety and eating disorder through self-directed learning projects and used that knowledge to raise awareness and advocate for her benefits to the regional health officials. These self-directed learning endeavors were instrumental in addressing the challenges that these women faced.

Some studies mentioned above such as Aslanian and Brickell (1980a), Rager (2003) and Roberson and Merriam (2005) identify that adults engage with learning to respond to some triggers related to changes in life circumstances. The timings of engagement with learning coincide with the presence of such triggers. Adults’ circumstances continually change throughout the lifespan and these changes create learning needs. When adults engage in learning to address learning needs that result from changes in life circumstances; with such changes being a
perennial feature of adult life, they end up participating in learning throughout their lives (lifelong). Learning triggers are thus conceived as antecedents to lifelong learning since changes in life circumstances (triggers) feature consistently throughout one’s lifespan. Therefore anyone who undertakes learning in response to learning triggers is likely to be classified as a lifelong learner since adults experience changes in life circumstances throughout life.

Considering lifelong learning as being tied to changes in life circumstances (current or anticipated) offers a broader conceptualization that captures a wider range of adult learning (life-wide learning), broader than conceptualizations that have focused on vocational or work-related learning only. Rubenson (2001) criticizes the Canadian Adult Education and Training Survey (AETS) for offering prominence to career-related motives for learning, sidelining other possible motives. It also focuses on organized education and training, which in reality constitutes a small fraction of total adult participation in learning activities. This criticism can be applied to many surveys of adult learning participation. The popularity of practical, how-to-do-it books (such as cook-books and child-care books) as evidenced by purchases points to how commonly adults learn for home and personal responsibilities (Tough, 1979). Lifelong learners engage in learning to address challenges or opportunities that come with changes in their life circumstances in such broad areas as jobs and careers, home and personal responsibilities and use of leisure time. According to Aslanian and Brickell (1980a) the three highest areas of triggers for learning were career, family and leisure.

Changes in life circumstances (triggers for learning) are incorporated in the lifelong learning readiness conceptualization for two reasons. First, changes in life circumstances are a lifelong source of learning triggers. They have been identified as triggering a need to learn and they feature throughout life. Secondly, the current vocational-based lifelong learning conceptualization fails to capture all the other non-work-related learning that adults undertake.
Considering changes in life circumstances as triggering learning enables a more inclusive conceptualization of lifelong learning including eschewed areas of adult learning such as home and personal responsibilities and leisure. Both reasons attend to a life-wide and lifelong conceptualization of lifelong learning.

Assessing readiness for lifelong learning should involve a consideration of an individual’s readiness to respond to triggers for learning which result from changes in life circumstances. Lifelong learners should be able to identify learning as a way they would deal with changes in life circumstances (learning triggers). Tough (1979) and Aslanian and Brickell (1980a) in their surveys of adult learners identified three broad areas of adult life, the transitions in which were rated highly as triggering learning.

**Job and Career**

Majority of respondents in both studies identified career related transitions as their reasons for deciding to learn. This is anticipated given the importance accorded to jobs and careers for success of individuals and the economy. Some triggers for learning drawn from studies by Aslanian and Brickell (1980a), Findsen and McCullough (2007), Knox and Videbeck (1963) and Tough (1979) that fall under this category include:

- Entering a new job/occupation e.g. getting hired in a new position or changing a career
- Adapting to a changing job e.g. where there are changes to an existing job such as getting new equipment, opening a new plant, passage of new regulations, maintaining or upgrading competence to keep up with a profession
- Advancing in career e.g. getting promoted, getting a new major responsibility, addition of new personnel to be supervised
- Dealing with immediate specific tasks or decisions for which one may be unprepared hence requiring new learning
**Home and Personal Responsibilities**

People also learn knowledge and skills to help manage their home and family. Tough (1979) points to the popularity of home reference books on such topics as medicine, home repairs, housekeeping, marriage, sex, and gardening as indicating that learning in such areas is undertaken in a more widespread manner than is commonly acknowledged. Some examples of triggers for learning identified from studies by Aslanian and Brickell (1980a), Findsen and McCullough (2007), Knox and Videbeck (1963) and Tough (1979) that fall under this category include:

- **Spouse-related** e.g. getting married, becoming pregnant, maintaining a joyful relationship and handling conflicts with a spouse, improving sex life, or dealing with divorce may trigger involvement in learning
- **Children-related** e.g. childbirth, assisting children go through school, helping teenagers become responsible and effective adults, developing a joyous relationship and handling conflicts with children
- **Finances-related** e.g. learning triggered by reduction or increase in family income in areas such as budgeting, stock markets and investing, and insurance. Also this includes decisions involving heavy expenditures such as buying a house, car or important equipment
- **Health-related** e.g. dealing with current loss or past loss of personal health (regain or maintain health), dealing with anticipated health loss, injury or illness of a family member, and adjusting to physiological changes of middle age.

**Leisure or Interest**

Some transitions may require learning skills in sports, crafts, hobbies and social activities (Aslanian and Brickell, 1980a). Triggering events may result from transitions outside leisure
such as losing a spouse, moving to a new neighborhood, retirement or even divorce. Also changing one’s leisure activities may be a trigger that requires learning to succeed in new leisure activities. Some examples of learning identified from studies by Aslanian and Brickell (1980a), and Tough (1979) that fall under this category include:

- Sports which includes swimming, bowling, tennis, skiing, sailing, scuba diving, surfing etc.
- Music which may consist of dancing lessons, singing lessons, learning how to play a musical instrument
- Traveling which can be learning before taking a trip, hiking, etc
- Decorative art and craft, flower arranging, painting, or photography, e.t.c.

Lifelong learning is instrumental in helping adults deal with challenges and opportunities present in their lives. The major areas of learning that adults identified themselves as engaging in from studies such as Aslanian and Brickell’s (1980a) can be categorized under career, home and family responsibilities, and leisure/interest. However, engagement in learning in these three areas of adult life can be attributed to an underlying set of triggers for learning (changes in life circumstances). Examples of triggers drawn from Aslanian and Brickell’s (1980a) work and others, to elaborate this point include:

- A drop in family income could trigger: learning how to prepare different food to cut on costs (cookery falls under leisure learning); taking up sewing lessons in order to stretch the clothing budget (leisure learning); or learning new skills to enable one to pick up a better paying job or a second job (career-related)
- An increase in family income could trigger: enrollment in learning activities for investing and securities at a local bank to help make investment decisions (Home and family
responsibilities- finance-related); engagement in learning activities such as fishing, golf, antiquing (leisure learning)

- Retirement of self or spouse could trigger: learning activities related to budgeting to help live within a reduced income (Home and family responsibilities- finance-related); learning a craft or sport to occupy increased free time (leisure learning)

- Moving into a new house or apartment could trigger: learning how to fix up an old house using do-it-yourself books or manuals to save on costs (home and family responsibilities); or learning about gardening if it has a garden (leisure learning)

A list of triggers that can cause engagement in learning activities among adults include:

- major changes within one’s job; a promotion; moving into a new job; request from employer to participate; seeing peers get ahead in their careers; getting a divorce; getting married; becoming pregnant; moving to a new location; increase in family income; rising cost of living; retirement; loss of health through injury or illness; suggestions from friends and relatives, among others.

This list is not conclusive; there are many more triggers that prompt adult engagement in learning activities.

The above mentioned triggers will form the basis for questionnaire items for assessing readiness to respond to triggers for learning. In assessing readiness to respond to triggers for learning the focus is on the extent to which individuals identify themselves as likely to engage in learning if confronted with such triggers for learning. It is expected that lifelong learners, when presented with such empirically derived triggers for learning, will rate themselves as highly likely to participate in learning for most of the triggers to address the challenges that arise from them. Lifelong learners are likely to view learning as a viable solution in addressing the challenges or opportunities they face in the three spheres of adult life identified above. Given the above triggers, identifying the likelihood of engaging in learning will indicate an inclination
towards life-wide learning as the learning here is focused on more than work-related outcomes. Given that these triggers are a perennial feature of adult life, responding to them with learning indicates that one may continue learning throughout life (lifelong learning orientation). Thus they thus see learning as a viable way of meeting their challenges and taking advantage of their opportunities.

“If people do not perceive participation in adult education as a means to satisfying their needs, and/or if they do not believe themselves capable of engaging in education or training, they will rarely participate unless forced to do so” (Rubenson, 2001, p. 21). The next section addresses another proposed component of lifelong learning readiness; the readiness of adults to self-direct their own learning.

**Self-Directed Learning and Lifelong Learning**

Writings and research on Self-Directed Learning demonstrate an interest in the concept’s applicability to lifelong learning (Merriam, Caffarella, & Baumgartner, 2007). There are many overlaps between discussions of self-directed learning and lifelong learning. Self-direction is both a goal and method in lifelong learning (White, 2001). Lifelong learning rests on the belief that individuals are and can become self-directing (Cropley, 1980; Tight, 1998a). In fact, Kidd (1959) says it is part of the nature of man to grow towards self-direction, self-discipline and autonomy. In lifelong learning there is an emphasis on individuals to take charge of their learning (Tight, 1998b), an idea that Brockett and Hiemstra (1991) offer as defining self-directed learning. Considering the lifespan, most of the learning that takes place may be described as taking forms of self-directed learning (White, 2001). “Learning on one’s own is the way most adults go about acquiring new ideas, skills and attitudes” (Merriam & Caffarella, 1991, p. 41). Smedley (2007) asserts that to enable lifelong learning, students have to be taught how to learn
independently. According to Candy (1991), self-directed learning is seen as a means and an end of lifelong education.

Self-directed learning, just like lifelong learning is grounded in humanistic philosophy (Merriam, Caffarella, & Baumgartner, 2007; Piskurich, 1993). Some of the tenets of humanistic philosophy include a belief that human nature is good, humans have unlimited potential, and that individuals have free will and can take responsibility for their learning (Merriam, Caffarella, & Baumgartner, 2007). Humanism holds sacred the autonomy and dignity of human beings (Elias & Merriam, 1980). Autonomy of learners is central to both self-directed learning and lifelong learning. According to Oddi (1986) self-directed learning is commonly associated with attributes of being autonomous, self-actualizing, seeking opportunities to grow and fulfill potential. The same are found in descriptions of humanistic philosophy. Both self-directed learning and lifelong learning are grounded in humanistic philosophy.

The prevalence of self-directed learning among adults has been well established (Brookfield, 1984; Rager, 2003). Hassan (1981) found a significant predictable relationship between readiness for self-direction in learning and the number of learning projects conducted in a year. It is one of the most common ways in which adults pursue learning throughout their lifespan. It is not far-fetched to conceive self-directed learning as being instrumental for lifelong learning. To be a lifelong learner, one has to take charge of his/her own learning. Given that majority of adult learning is self-directed, a lifelong learner has to be capable of being self-directed in his/her learning. A measure of self-directed learning readiness needs to be included in the assessment of lifelong learning readiness.

**Self-Directed Learning Defined**

Self-directed learning is rarely defined precisely (Grow, 1991). Oddi (1987) contends that definitions are frequently confusing and overlapping. Names used interchangeably with self-
directed learning include independent learning, self-planned learning, self-instruction, autonomous learning, self-teaching, self-study, self-education, discovery learning, and the inquiry method (Guglielmino, 1978).

Grow (1991) views self-directed learning as the degree of choice a learner has within an instructional situation. Piskurich (1993) views self-directed learning as a training design where trainees master predetermined material at their own pace without the aid of an instructor. Self-directed learning is a “form of study in which learners have the primary responsibility for planning, carrying out, and evaluating their own learning experiences” (Merriam & Caffarella, 1991, p. 41). A successful self-directed learner is one who has an awareness of what he wants to learn and knows how to go about it (Brockett, 1985b). Brockett and Hiemstra (1991) describe self-directed learning as a way of life in which adults make a conscious choice to take responsibility for their own learning. Common to all self-directed learning definitions is some type of student involvement or choice (Piskurich, 1993). Self-directed learners take control and accepts the freedom to learn what they view as important for themselves (Fisher, King & Tague, 2001, p. 516). The learner takes responsibility for his/her learning.

Self-directed learning takes place in and outside of the confines of formal learning institutions (Ellinger, 2004). It also does not mean learning in isolation as learners may draw from helpers and other resources (Merriam & Caffarella, 1991; Ellinger, 2004).

There are two approaches to studying SDL. One approach investigates SDL as a personality characteristic (e.g. Oddi, 1986; 1987) while the other focuses on SDL as a process of study (e.g. Tough, 1977; Piskurich, 1993).

**Prevalence of Self-Directed Learning**

The study of self-directed learning is relatively new, though its practice is not a new phenomenon (Guglielmino, 1978). This may be because much of self-directed learning is
invisible. It is largely embedded in people’s daily life and occurs outside formal institutions (Merriam, Caffarella, & Baumgartner, 2007).

Allen Tough, terming it self-planned learning, was one of the first to conduct a comprehensive description of self-directed learning (Merriam, Caffarella, & Baumgartner, 2007). Tough (1978) reviewed a cross-section of studies which investigated the number of major learning efforts adults partake in a year, what they learn, how much time they spend and how they plan for it. He concluded that though numbers may change from one population to another, between 70-100% of participants undertake one major learning effort per year. The typical learner conducts five distinct learning projects in a year. Of that learning only 20% is planned by a professional, 73% is planned by the learner. According to Brookfield (1984) Tough’s work was instrumental in that it challenged the assumption that adult learning could only occur in the presence of fully accredited professional teachers. The view that institutionally sponsored programs were more deliberate and purposeful as opposed to learning in non-institutional contexts was also challenged by his work. Livingstone’s study (as cited in Rager, 2003) found that 95% of the sample used in the study engaged in some type of informal learning. Participation in self-directed learning is almost universal, as 90% of the population is estimated to be involved with at least one self-directed learning activity per year (Merriam & Caffarella, 1991). The prevalence of self-directed learning in adults lives was confirmed by studies subsequent to Tough’s. Merriam, Caffarella, & Baumgartner (2007) and Brockett (1985a) cite several such studies.

**Self-Directed Learning Models**

Researchers also concerned themselves with developing in-depth self-directed learning conceptual models (e.g. Brocket & Hiemstra, 1991; Candy, 1991; and Garrisson, 1997). In initial studies, it was assumed that the process of self-directed learning was similar to the formal
learning process, a process linear in nature involving establishing goals, locating resources and choosing learning strategies (Merriam & Caffarella, 1991). Researchers thus concentrated on the ability of learners to execute steps in the process such as setting goals, identifying learning resources, developing strategies and evaluating results (Oddi, 1986). The attention here was on the level of learner autonomy over the instructional process (Song & Hill, 2007). Considering SDL as a process of self-instruction offers a very limited scope for a complex activity (Oddi, 1986). It does not account for most of the human learning which occurs.

Knowles (1975) envisioned the self-directed learning as a six step process. These include climate setting; diagnosing learning needs; formulating learning goals; identifying resources for learning; choosing and implementing appropriate learning strategies; and evaluating learning outcomes. These conceptualizations were followed by recommendations to educators on how to facilitate self-directed learning. There are overlaps between Knowles’ and Tough’s descriptions of self-directed learning.

Tough (1978) describes a framework which he used to investigate the process by which adults taught themselves. His work is considered to be the first comprehensive description of self-directed learning. He used the term adult learning projects to refer to self-teaching projects in which adults engaged in deliberate efforts to gain knowledge and skill or change in some way. To be included the learning efforts had to add up to a total seven hours. The learning efforts could take any form such as reading, listening, observing, reflecting, practicing, class attendance and getting answers to questions, if the primary purpose of that effort was to gain certain knowledge or skill including competence, habits, and attitudes among other changes.

Tough’s investigations culminated in a linear model in which self-directed learners passed through thirteen steps in their learning projects. Each step in the model represents a key decision-making point in the learning process such as choosing what, where and when to learn
alongside deciding on resources to use for learning. He focused mainly on intentional learning, leaving out all activities in which learning was a by-product of some other task. Tough is credited with being among the first to clearly describe the self-directed learning process (Oddi, 1987). According to Oddi (1987) learning through the learning projects does not include all learning processes for adults; hence the model has a limited scope. Also the approach tends to view SDL as being episodic rather than as a dynamic process. Brockett and Hiemstra (1991) also see Tough’s work as only concerned with the planning and deciding portion of the learning process.

Using qualitative methods, Roberson and Merriam (2005) investigated the self-directed learning efforts of older, rural adults. They came up with a series of events which constituted the process of self-directed learning for those older, rural adults. The process begins with an incentive to learn (in this case related to later life changes) which may be internal or external. The process of self-directed learning continues if there is an accompanying personal interest. The next step is accessing resources, a process which is as unique as the individual. Participants accessed several resources during their self-directed learning process. Systematic attention is the part of the process when the goals of self-directed learning become a priority. The next step is adjustments in learning activities, whereby obstacles, errors, or difficulty in the process are dealt with. The process may then come to a close at the resolution step or it may become an ongoing learning project. Also a catalyst was mentioned, which may be some event, which speeds up the process or motivates them to learn at a deeper level. Whereas being a process model, this model is more interactive than one proposed by Knowles (1975) and Tough (1978). It emphasizes more the role of adult development in the process of learning.

According to Merriam and Caffarella (1991), learners use a variety of strategies when learning on their own. Learner choice introduces diversity in terms of the process of self-directed
learning making it difficult to conceptualize self-directed learning as being linear. After investigating adult learners (16 years or older) with less than high school completion who were engaged in a self-directed learning project, Spear and Mocker (1984) concluded that there was no evidence of detailed preplanning among the participants as had been emphasized by previous research. However, they concluded that such learning was deliberate, not random. Additionally, Oddi (1987) opined that linear conceptualizations of self-directed learning focus more on discrete episodes of learning but do not explain why such behaviors persist over time, nor do they explain interrelations between the episodes. The more recent self-directed learning models are more interactive, attributing self-directed learning to a combination of factors such as personality characteristics, cognitive processes, and context of learning (Merriam, Caffarella, & Baumgartner, 2007).

Spear and Mocker (1984) developed a self-directed learning model whose emphasis was on the role life circumstances play in shaping one’s learning. The focus was on the triggering events that set the process in motion, how resources were acquired and how decisions regarding the learning process were made. They saw learners’ life circumstances as playing a major role in determining how self-directed learning starts and proceeds. Learners tended to organize and structure their learning projects depending on the circumstances within their environment. They labeled this phenomenon “the organizing circumstance”. In contrast with previous conceptualizations that had learners for example choosing from a variety of learning resources, they found that learners were more likely to use a single resource that was available fortuitously within their environment. After a triggering event, learners chose courses of action that occurred fortuitously in their environments (Ellinger, 2004).

In their model, Spear and Mocker (2004) emphasized that personal knowledge, opportunities to learn and chance situations combine to shape a unique learning experience. They
proposed that a learning project begins with a triggering event, normally a change in life circumstances. The changed circumstance presents a single or very few opportunities or resources for learning which the adult can use. The structure, method, resources and conditions for learning are directed by the circumstances. The circumstances created in one discrete learning period become the circumstances for the next logical step.

Brockett and Hiemstra (1991) developed the Personal Responsibility Orientation model which consists of two related dimensions; the instructional methods processes and the personality characteristics of the individual learner (learner self-direction). The instructional processes dimension concerns learners assuming responsibility for planning, implementing, and evaluating their learning. Educators here play a facilitating role. The learner self-direction centers on learners preference for assuming responsibility for learning. They combined both the external characteristics of the instructional process and the personal attributes or internal characteristics of the learner in the model. They acknowledge the importance of the social context in which self-directed learning occurs.

Grow (1991) proposed the Staged Self-Directed Learning model (SSDL) which was designed with teachers, students and educational institutions in mind. The model proposes that learners advance through four stages of increasing self-direction. Teachers can aid or hinder that process. Self-directedness in learning can be taught and can be learned. The model offers a guide to teachers on how to help the students become more self-directed by individualizing their teaching style to match learners’ stage of self-direction. Good teaching varies in response to the learners, i.e. it is situational. The teachers’ role is to match the learners’ stage of self-direction and prepare the learners to advance to higher stages. Students can thus be moved from dependency to self-direction.

The four stages in the Grow model are:
• Stage one consists of dependent learners who need an authority-figure to give them specific directions on when, how and what to do. Here, learning is teacher-centered. Teaching should mainly be through coaching and insight.

• Stage two consists of learners of moderate self-direction. These are interested, “good students,” though they may be ignorant of the subject of instruction. The teacher here is called upon to be enthusiastic and motivating issuing highly supportive directives. Motivated and encouraged, students will continue to learn on their own. Students should begin to be trained in basic skills such as goal setting. Also tie the subject to the learner’s interest.

• Stage three consists of learners of intermediate self-direction. The learners have skills and knowledge and can explore a subject with a good guide. The teacher should be a facilitator. Teachers and students share decision-making with students taking an increasingly important role.

• Stage four consists of learners of high self-direction. These learners set their own goals or standards with or without the help of experts. They use experts, institutions and other resources to pursue these goals. The teacher here plays a delegating role and rather than teaching subject matter, he/she cultivates the student’s ability to learn.

Grow (1991) offers a grid of 16 possible pairings between teaching styles and learning styles. The challenge is matching the teacher’s style to the learner’s degree of self-direction. Problems arise when such a match is lacking.

Garrison’s (1997) model also incorporates the personal attributes as well as learning process perspectives of self-directed learning. It covers three dimensions, namely self management/external management (contextual control), self-monitoring/internal monitoring (cognitive responsibility), and motivational dimensions (entering and task).
• Self management involves learners taking control of, and shaping, the contextual conditions to meet their learning goals. It is learners taking control of external activities associated with the learning process. This involves the enactment of learning goals and the management of learning resources. It is what learners do during the learning process.

• Self-monitoring is the ability of learners to monitor their cognitive and meta-cognitive processes. It is the process by which learners monitor their own thinking, integrating new and existing knowledge structures, and modifying their thinking to meet learning goals. It is a process of constructing meaning. This process depends on internal and external feedback.

• Garrison (1997) acknowledges that motivation plays a significant role in initiation and maintenance of effort towards learning. The motivational dimension involves what influences people to enter (entering motivation) and continue participating/persisting in a self-directed learning activity (task motivation).

The model addresses self-directed learning in an educational context, which in itself is reducing a phenomenon that occurs in and out of educational settings. Self-directed learning can take place inside and outside the confines of formal education institutions (Ellinger, 2004). Also his focus on worthwhile learning as being socially negotiated may find support if the self-directed learning occurs in an educational setting. He mentions that “it is the teacher who can provide efficient and effective feedback for purposes of self-monitoring the quality (meaning and validity) of the learning outcome” (Garrison, 1997, p. 25). He argues that “absolute learner control may adversely affect or reduce the efficiency of achieving quality learning outcomes” (Garrison, 1997, p. 26) and also reduce learner persistence. However in a lifelong learning setting, it is assumed that the self-directed learner determines the learning needs and also
evaluates the learning. It is the learner who determines if the learning is complete and if it is worthwhile.

**Self-Directed Learning Readiness**

The assumption that learners become more self-directed and autonomous in adulthood led to studies which investigated self-directed learning as a personal characteristic or attribute (Merriam, Caffarella, & Baumgartner, 2007). According to Knowles (1990), as adults mature, they move towards self-direction, a sort of natural inclination. Grow (1991) also attributes self-direction as being partly a personal trait analogous to maturity, which once developed is transferable to new situations. Grow (1994) however sees self-direction, just like dependency, as something that can be learned and not something that comes with the state of being an adult.

Two main instruments, the Oddi Continuing Learning Inventory (Oddi, 1986) and the Self-Directed Learning Readiness Scale (Guglielmino, 1978), have been used to study readiness to engage in self-directed learning. A recent one was developed by Fisher, King, and Tague (2001) for assessing nurses’ self-directed learning readiness.

Oddi (1986) conceptualized self-directed learning as being broader than a self-instructional process. Her conceptualization considers an individual’s motivation to pursue and persist in learning throughout life rather than on the ability to engage in episodes of self-instruction. “…one need not be a proficient self-teacher in order to be a self-directed learner” (Oddi, 1987, p. 26). Thus she chose to use the term “self-directed continuing learning.” Consideration of self-directed learning as a self-instructional process fails to account for individuals whose learning styles are not compatible with planning courses of self-instruction. It also fails to account for persistence in learning (Oddi, 1987). She identifies persistence as a psychological variable not necessarily dependent on skill.
In developing the Oddi Continuing Learning Inventory (OCLI), Oddi (1986) focused on personality characteristics of individuals whose learning behavior is characterized by initiative and persistence in learning through a variety of modes. Focusing on personality characteristics provides a relatively stable indicator of Self-Directed Learning, one independent of the mode of learning (Oddi, 1987). The instrument was developed from an extensive list of personality characteristics derived from writings of experts on Self-Directed Learning and those variables supported by research findings. Those characteristics that were logically related were divided into groups which were refined to form three broad clusters (Oddi, 1986). These clusters were taken to be important dimensions with two poles: one having high amounts of that characteristic and the other low amounts of that characteristic. The conceptual clusters include (Oddi, 1986):

- Proactive versus reactive drive (PD/RD): focuses on learners’ ability to initiate and persist in learning without obvious external reinforcement. On the one hand there is a learner who is self-confident, self-regulating who initiates and sustains learning activities. On the other hand there is a learner characterized as low on self-confidence, who relies on extrinsic forces to stimulate learning, and has a tendency to discontinue learning on encountering obstacles.

- Cognitive openness versus defensiveness (CO/D): this dimension involves the consideration that openness to change is an important attribute of the self-directed learner. A high score represents openness to new ideas, ability to adapt to change and tolerance for ambiguity. The opposite pole represents attributes such as rigidity, fear of failure and avoidance of new ideas and activities.

- Commitment to learning versus apathy or aversion to learning (CL/AAL): this is a dimension for people who enjoy learning for its own sake, participate in learning in a variety of modes, and learn on a continual basis. One pole involves expression of positive
attitudes towards engaging in learning activities of various sorts and a preference for thought-provoking leisure pursuits. The opposite pole includes expression of hostile attitudes towards engagement in learning activities.

The three dimensions are assumed to be interrelated and mutually reinforcing.

These three dimensions describe the motivational, cognitive and affective attributes of self-directed learners (Oddi, Ellis, & Roberson, 1990). The core dimensions of the theoretical formulations guided the construction of a 100 item pool. Content validation was achieved by subjecting the items to a review by panel of experts in the area of psychological constructs or adult education, and graduate students in law, nursing and adult education (Oddi, 1986). Further refinement was conducted through a pre-pilot and a pilot study. The resulting refined instrument was administered to a sample of 271 graduate students in law, nursing and adult education. The final OCLI instrument had 24 items and had a coefficient alpha of .875 and test-retest reliability of .893.

Factor analysis of the 271 responses yielded three principle components accounting for 45.7% of the total variance. Rotation by oblimin technique yielded three interpretable factors (Oddi, 1986).

- Factor I contained 15 salient items and accounted for 30.9% of the variance. It represented elements from the PD/RD dimension of the theoretical formulations. It gained additional items reflecting the ability to work independently and to learn through involvement with others. This was considered a general factor.

- Factor II, Ability to be Self-Regulating, contained three salient items and accounted for 8% of the total variance. The items represented one of the elements in the PD/RD dimension of the theoretical formulations.
Factor III, Avidity for Reading, contained four salient items and accounted for 6.8% of the total variance. The items reflected a portion of the CL/AAL dimension.

The failure of separate factors to explain adequate amounts of the total variance makes it necessary to use the total scores to assess validity of the instrument (Oddi, 1986). The ability to be a self-directed learner is related to neither intelligence nor intellectual achievement. The instrument measures aspects of an individual’s initiative and persistence in learning (Oddi, 1986).

Based on correlations of the OCLI with other instruments of known reliability and validity, the instrument was found to be of satisfactory reliability and stability, when used in its entirety (Oddi, 1986). Its convergent validity was suggested by positive correlations between total OCLI scores and scores on the Leisure Activity Scale. Discriminant validity was demonstrated when the total OCLI scores failed to correlate significantly with scores on a measure of adult intelligence (Oddi, Ellis, & Roberson, 1990). Further construct validation tests were conducted by Oddi, Ellis, and Roberson (1990) aimed at examining the relationship between OCLI and certain behavioral characteristics thought to be indicative of SDL. Behaviors investigated include voluntary attendance and participation in job-related learning activities. Significant positive correlation found between OCLI scores and total Job Activity Survey (JAS) scores which measure participation in on the job learning activities suggested convergent validity, though the strength of the relationship was low. Also, there was failure of the OCLI scores to correlate highly with group instruction scores and voluntary attendance scores. The OCLI was also found to provide a better estimate of one’s ability to learn through self-instruction than through inquiry, performance and group instruction.

In an exploratory factor analysis, Harvey, Rothman and Frecker (2006) found a three factor solution equivalent to Oddi’s (1986). However, a confirmatory factor analysis generated
four underlying dimensions of OCLI which include learning with others; learner motivation/autonomy/self-efficacy; ability to be self-regulating; and reading avidity. They found a four-factor solution to be offering a better fit. They called for further development and testing of the OCLI since all the models of the OCLI explained less than 50% of the variance in the analyzed response set. Oddi, Ellis, and Roberson (1990) called for a refinement of the OCLI to strengthen its ability to measure learning through different modes.

According to Merriam, Caffarella, and Baumgartner (2007) more than twenty five variables have been correlated with OCLI scores. Some of the variables they cite include self-concept, on-the-job learning, left brain hemispherity, and grade-point average among others.

The SDLRS is a 58 item, Likert scale instrument designed by Guglielmino in 1977 to assess an adult’s readiness for self-directed learning. According to Guglielmino (1978), self-directed learning readiness results from a complex of attitudes, values and abilities. The SDLRS was designed in two steps. First, fourteen experts in the field of self-directed learning were asked to name and rate characteristics they considered important for self-direction in learning including attitudes, abilities and personality characteristics. Characteristics that were rated as desirable or better were used to construct the SDLRS instrument. After some review and revision, an instrument was administered to 307 people in Georgia, Vermont and Canada. A reliability coefficient of .87 was estimated (Guglielmino, 1978). A factor analysis of the data revealed eight factors. They are self-concept as an effective learner; openness to learning; initiative and independence in learning; acceptance of responsibility for one’s learning; love for learning; creativity; future orientation; ability to use basic study and problem solving skills.

The SDLRS is a measure of perceived readiness, not of actual self-directed learning behavior (Brockett, 1985b). It is the most frequently used quantitative measure of Self-Directed Learning. A large body of research supports the validity and reliability of the SDLRS.
Merriam, Caffarella, and Baumgartner (2007) cite studies which have explored the relationship between self-directed readiness and such other measures as life satisfaction, job-satisfaction, and course grade, learning styles, cross-cultural adaptability and job performance.

Self-directed learning readiness is a developable capacity in individuals (Guglielmino, 1989). Individuals who score low on SDLRS should be given opportunities to become effective self-directed learners (Merriam, Caffarella, & Baumgartner, 2007).

Field (1989, 1990) raised concerns regarding the validity and reliability of the SDLRS. According to Field (1989) the scale has continued to be used under the assumption that its validity has been demonstrated. However the validity is questionable owing to the low to moderate association between the construct measured by this scale and other related constructs. He also disputed the current use of Guglielmino’s (1978) eight factor structure that was based on the original 41 item instrument, offering that the instrument has undergone changes including addition and deletion of items and a new factor structure was required. The eight-factor structure has proven difficult to replicate. Analysis of Field’s (1989) data showed that the construct being measured is homogenous and not related to self-directed learning readiness (Field, 1989). He called for a discontinuation in the use of the instrument, citing conceptual flaws (Field, 1990).

Brockett’s (1985b) assertion that negatively phrased items were a significant source of invalidity found support in Field’s (1989) work. Guglielmino (1989) and Long (1989) criticized Field’s (1989) work on grounds of the statistical procedures he used and incorrect interpretation of the sources he cited. According to McCune (1989), Field’s analysis suggested some misunderstandings of the statistical concepts he employed.

Brockett (1985b) encountered problems when administering the SDLRS to a group of older adults of low educational attainment and questioned the appropriateness of using the
instrument on that sample. He was concerned that the books and schooling orientation of SDLRS may not be appropriate for use on adults with relatively few years of formal schooling. Bonham’s (1991) investigation of the meaning of low scores on the SDLRS led her to question the construct validity of the instrument. Her conclusion was that low scores indicate a dislike for any kind of learning as opposed to other directedness, and hence construct validity may not be supported for the present meaning given to high scores. This may seem close to a conclusion that Field (1989) drew from his study, that the construct being measured by SDLRS is related to love of, and enthusiasm for, learning.

Hassan (1981) vouched for the validity of the SDLRS after he found a significant predictable relationship between readiness for self-direction in learning and number of learning projects conducted in a year using Tough’s interview schedule. To address Brockett’s (1985b) concerns, a version for individuals with lower reading levels and lower levels of English proficiency was developed (Guglielmino, 1989). According to Brockett and Hiemstra (1991) the SDLRS’ contributions to the understanding of Self-Directed Learning outweighs its methodological concerns. They therefore do not advocate dismissing the instrument. Merriam, Caffarella and Baumgartner (2007) share the same sentiment. However the construct validity and reliability issues raised by, among others, Field (1989) are hard to ignore especially given the low item-to-total SDLRS score correlations and reliability problems when used with different populations.

According to Fisher, King and Tague (2001) the degree of control learners take over their learning depends on their attitudes, abilities and personality characteristics. They developed a scale that assesses nursing students’ attitudes, abilities and personality characteristics for self-directed learning in a tertiary education setting. Whereas admitting that the SDLRS (Guglielmino, 1977) is the most widely used instrument in assessing self-directed learning
readiness, Fisher, King and Tague (2001) cite validity issues raised in the literature and cost issues related to the use of SDLRS as the main reasons warranting the construction of a new self-directed learning readiness instrument.

Fisher, King and Tague (2001) developed a list of attitudes, abilities and personality characteristics of self-directed learners from an extensive literature review. A list of 93 items perceived to reflect self-directed learning readiness were presented to, and rated for relevance by a panel of 11 nursing education experts. After two rounds of the Delphi technique, a 52 item instrument was administered to a convenience sample of 201 undergraduate nursing students. Following an item-to-total correlation test, 10 items were dropped from the scale. Exploratory factor analysis was conducted on the remaining 42 items revealing three components labeled Self-Management, Desire for Learning and Self-Control. Two items that did not load on any of the three components were dropped from the scale. The Cronbach’s coefficient alpha for the total item pool (n=40) was 0.924, for the Self-Management subscale (n=13) was 0.857, the desire for learning subscale (n=12) was 0.847, and the Self-Control subscale (n=15) was 0.830. The resulting 40 item instrument was found to be homogenous and valid. A total score of more than 150 on the scale indicates readiness for SDL. The validity of this instrument was established by the development of the scale items from the literature, assessment by a panel of experts using a two-round Delphi technique and testing with exploratory factor analysis (Fisher, King & Tague, 2001, p. 520).

Fisher, King and Tague (2001) called for more research to determine the validity of the instrument and confirm its factor structure especially across different racial groups. Smedley (2007) heeded the call by seeking to assess the validity and reliability of Fisher, King and Tague’s (2001) Self-Directed Learning Readiness Scale in another undergraduate nursing context. Her study sought to assess the self-directed learning readiness of beginning level
Bachelor of Nursing students at a college that offers some components of its program in the form of clinical learning logs and independent learning contracts (both forms of self-directed learning). Smedley (2007) conducted item-to-sum correlations which indicated that the instrument had significant internal consistency. Similarity between the Cronbach alpha coefficient computed for each of the three subscales by Fisher, King and Tague (2001) and Smedley (2007) reaffirmed the reliability and internal consistency of the instrument (Smedley, 2007).

Rutledge (2006) used Fisher, King and Tague’s (2001) instrument to assess self-directed learning in graduate nursing students. She found the overall internal consistency as being good with a coefficient alpha .92. Thirty-six items had individual item-total correlations of more than .30. The three reverse-coded items had low correlations. Subscale alpha coefficients were acceptable. She concluded that the psychometrics of the SDLRS seemed adequate for use with graduate nursing students.

Oddi, Ellis and Roberson (1990) called for further refinement of OCLI to strengthen its ability to measure learning through different modes. Harvey, Rothman and Frecker (2006) called for further development and testing of the OCLI since all the models of the OCLI explained less than 50% of the variance in the analyzed response set. Field (1989, 1990) raised concerns regarding the validity and reliability of the SDLRS developed by Guglielmino (1978). Items to assess self-directed learning readiness in this study were adapted from the self-directed learning readiness instrument developed by Fisher, King and Tague’s (2001).

**Readiness to Overcome Deterrents to Participation**

The issue of participation has been an issue of concern in the Adult Education field for many decades. Even in lifelong learning literature, there are calls for an understanding of non-participation and under-participation in learning opportunities. Richardson (1978) asserted that
federal lifelong policies should be directed at removing barriers to participation and towards
developing learning opportunities. Tight (1998a) identified nonparticipation as a key problem in
lifelong learning. Norman and Hyland (2003) called for a widening of participation, not just
increasing participation. This, they said, would be done by removing obstacles for learners
consistently under-represented in post-compulsory education. According to Valentine and
Darkenwald (1990) helping adults overcome forces that keep them from participating in learning
is the most difficult task confronting program planners in adult education.

Early studies were focused on investigating the nature and extent of adult learning
participation (Dickinson & Clark, 1975). Later studies aimed at understanding participation took
two routes. Some studies investigated motivating factors such as Houle’s (1961), while others
investigated factors that deter people from participating such as Beder, (1990), Darkenwald and
Valentine, (1985), King, (2002), Martindale and Drake, (1989), and Scanlan and Darkenwald,

In a study of adult motivations for participating in educational activities, Houle (1961)
suggested that adult participants were either goal oriented (learn to accomplish a specific
objective), activity oriented (learn to develop social contacts and relationships with others) or
learning oriented (seek knowledge for its own sake), orientation in this case being the way adults
viewed their involvement in learning. According to Dickinson and Clark (1975), Houle’s
tripartite typology stimulated a lot of research which resulted in refinement of measurement
techniques and extension of his three original categories. Dickinson and Clark (1975) examined
the relationship between learning orientations and participation in different types of learning
activities. The following table prepared by Dickinson and Clark (1975) shows how closely the
results of other research on learning motivation approximated Houle’s tri-partite typology.
Table 1
Summary of Factors Identified in Studies of Learning Orientations

<table>
<thead>
<tr>
<th>Study</th>
<th>HOULE TYPOLOGY</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Goal Orientation</td>
</tr>
<tr>
<td>A. Continuing Learning Orientation Index (C.L.O.I.)</td>
<td></td>
</tr>
<tr>
<td>1. Sheffield</td>
<td>Personal-goal Societal-goal</td>
</tr>
<tr>
<td>2. Sovie</td>
<td>Persona-goal Occupational-goal Professional-goal Societal-goal</td>
</tr>
<tr>
<td>B. Education Participation Scale (E.P.S.)</td>
<td></td>
</tr>
<tr>
<td>3. Boshier</td>
<td>Other-directed advancement</td>
</tr>
<tr>
<td>4. Morstain and Smart</td>
<td>External expectations Professional advancement Social welfare</td>
</tr>
<tr>
<td>C. Reasons for Educational Participation (R.E.P.)</td>
<td></td>
</tr>
<tr>
<td>5. Burgees</td>
<td>Personal-goal Social-goal Religious-goal Meet formal requirements</td>
</tr>
<tr>
<td>6. Grabowski</td>
<td>Personal-goal Social-goal</td>
</tr>
</tbody>
</table>

Source: Dickinson and Clark (1975)

Using results from his Education Participation Scale and borrowing from Maslow’s theory of hierarchy of needs Boshier (1977) distinguished between life-space (growth) participation motivation and life-chance (deficiency) participation motivation. Deficiency motivation caused people to participate in learning to remedy a deficiency or imbalance in one’s life. Participants here engage in learning to meet lower-order needs of survival. On the other
hand, growth motivation participation is part of self-actualizing behavior. Participants here have already met the lower-end needs in Maslow’s hierarchy of needs and are more concerned with expanding their life-space. He hypothesized that life-space participants will be more continuous in their learning than life-chance participants. Boshier and Collins (1985) conducted a large-scale empirical test of Houle’s tripartite typology. Whereas they found general support for Houle’s typology, they concluded participation behavior was more complex and finer distinctions were necessary.

While the motivation studies offer invaluable insights into the participation phenomena, other researchers have looked to identify commonalities in deterrents/barriers to participating in educational activities (Beder, 1990; Darkenwald & Valentine, 1985; King, 2002; Martindale & Drake, 1989; Scanlan & Darkenwald, 1984). According to Scanlan and Darkenwald (1984) motivation studies were not successful in distinguishing between participants and non-participants.

The terms barriers and deterrents have been used interchangeably in literature, but deterrents has come to gradually replace barriers. According to Valentine and Darkenwald (1990), the term barrier connotes an “absolute blockage, a static, insurmountable obstacle” (p. 30) while deterrents suggest a “more dynamic and less conclusive force … one that works in combination with other forces” (p. 30). Scanlan (1986) defines a deterrent to participation as a reason contributing to an adult’s decision not to engage in learning activities.

Cross (1981) classified barriers to participation in learning activities under three groups: situational, institutional, and dispositional barriers. Situational are those reasons that arise from ones situation in life at a given time such as lack of time, lack of money, lack of child-care and transportation. Institutional barriers refer to practices and procedures that discourage adults from participating in educational activities. These are subconsciously erected by providers of
educational services. Examples include inconvenient schedules, inconvenient locations and inappropriate courses of study. Dispositional barriers refer to the attitudes and self-perceptions of learners which may inhibit participation in educational activities or educational attainment. For example older adults may feel they are too old to learn. Poor educational backgrounds or low grades in the past may engender a lack of interest in learning or low confidence in the ability to learn.

In Table 2 below, Cross (1981) grouped barriers to learning identified by a national commissioned survey conducted by Carp, Peterson, and Roelfs (Cited in Cross, 1981) into situational, institutional, and dispositional barriers in order to illustrate the relative importance of the three types of barriers. Some barriers could fall under more than one category. For instance, lack of information could fall under the institutional and situational categories.

Table 2
Perceived barriers to learning as identified by Carp, Peterson, and Roelfs (1974) and categorized by Cross (1981)

<table>
<thead>
<tr>
<th>Barriers</th>
<th>Percent of Potential Learners&lt;sup&gt;a&lt;/sup&gt;</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Situational Barriers</strong></td>
<td></td>
</tr>
<tr>
<td>Cost including tuition, books, child care, and so on</td>
<td>53</td>
</tr>
<tr>
<td>Not enough time</td>
<td>46</td>
</tr>
<tr>
<td>Home responsibilities</td>
<td>32</td>
</tr>
<tr>
<td>Job responsibilities</td>
<td>28</td>
</tr>
<tr>
<td>No child care</td>
<td>11</td>
</tr>
<tr>
<td>No transportation</td>
<td>8</td>
</tr>
<tr>
<td>No place to study or practice</td>
<td>7</td>
</tr>
<tr>
<td>Friends or family don’t like the idea</td>
<td>3</td>
</tr>
<tr>
<td><strong>Institutional Barriers</strong></td>
<td></td>
</tr>
<tr>
<td>Don’t want to go to school full time</td>
<td>35</td>
</tr>
<tr>
<td>Amount of time required to complete program</td>
<td>21</td>
</tr>
<tr>
<td>Courses aren’t scheduled when I can attend</td>
<td>16</td>
</tr>
<tr>
<td>No information about offerings</td>
<td>16</td>
</tr>
<tr>
<td>Strict attendance requirements</td>
<td>15</td>
</tr>
<tr>
<td>Courses I want don’t seem to be available</td>
<td>12</td>
</tr>
<tr>
<td>Too much red tape in getting enrolled</td>
<td>10</td>
</tr>
</tbody>
</table>

(Table Continued)
Don’t meet requirements to begin program 6
No way to get credit or a degree 5

Dispositional Barriers
Afraid that I’m too old to begin 17
Low grades in past, not confident of my ability 12
Not enough energy or stamina 9
Don’t enjoy studying 9
Tired of School, tired of classrooms 6
Don’t know what to learn or what it would lead to 5
Hesitate to seem too ambitious 3

*Potential learners are those who indicated a desire to learn but who are not currently engaged in organized instruction.

According to Cross (1981) in all survey research situational barriers lead the list with the cost of education and lack of time leading all other barriers by substantial margins. When it comes to institutional barriers, learners complain the most about inconvenient locations and schedules, and lack of relevant or interesting courses. She contends that dispositional barriers have been underestimated in survey data due to the social desirability issue. People are likely to cite that they are busy rather than one lacks ability or is too old.

Scanlan and Darkenwald (1984) were among the first to systematically investigate deterrents to participation. They developed the Deterrents to Participation Scale (DPS) and administered it to a large random sample of health professionals. They sought to explore an underlying meaningful structure to the many reasons adults offer for not participating in educational activities. A number of deterrents to participating in discipline specific educational courses were discovered. They fell under six factors which included disengagement, lack of quality, family constraints, cost, lack of benefit, and work constraints. This empirical study provided evidence to support the view that deterrents construct is multidimensional and way more complex than earlier conceptualizations suggested. The study was instrumental in the sense that it demonstrated empirically that deterrent factors could be identified and that they contributed to explaining variance in participation behavior.
Darkenwald and Valentine (1985) developed a more generic version of the DPS (DPS-G) that could be used to assess deterents in the general population. They validated the instrument with the general adult population in the United States. An exploratory factor analysis revealed deterents which included: lack of confidence; lack of course relevance; time constraints; low personal priority; cost; and personal problems. These were almost similar to the Scanlan and Darkenwald (1984) study. They suggested that the DPS-G be validated using different populations.

The DPS-G was used in replication studies on enlisted U.S. Air Force personnel in two bases in Alabama (Martindale & Drake, 1989). The study revealed eight factors with the top six deterents being the same in both groups. The deterents include lack of course relevance, lack of confidence, cost, time constraints, lack of convenience, lack of interest, family problems and lack of encouragement. The responses aligned closely with those of Darkenwald and Valentine (1985). The differences were attributed to population differences in income, education and age (Martindale & Drake, 1989). The study established a general validity for the instrument.

Blais, Duquette, and Painchaud (1989) investigated deterents to participation in continuing nursing education to determine whether women working in a traditionally female profession were confronted with specific kinds of deterents. They surveyed a relatively homogenous group of only diploma nurses who had not registered in any continuing educational activities outside their work in the past 12 months (pure non participants). An adjusted DPS instrument (Scanlan & Darkenwald, 1984) was used. This resulted in five factors, namely: incidental costs; conflicting role demands resulting from low priority for work-related educational activities; absence of external incentives; irrelevance of additional formal education for professional practice; and lack of information and affective support. Incidental costs and conflicting role demands resulting from low priority assigned to work-related educational
activities were identified as the most important barriers. They are similar in a generic way to cost and time constraints identified in previous research (Blais, Duquette & Painchaud, 1989).

These above studies identified similar deterrent forces with the differences occurring being attributed to differences in the respective populations and methods of analysis. For example the top six deterrents in the Darkenwald and Valentine (1985) and Martindale and Drake (1989) studies were the same though not in the same order. Item means for the two groups were also observed to correlate closely. The consistency of the factors found in both studies supported the use of the instrument with other populations (Martindale & Drake, 1989). Drake (1988) used the DPS-G to investigate deterrents to agriculture teachers’ participation in credit and non-credit courses. He identified six factors, including lack of course relevance, cost, lack of confidence, time constraints and personal priority, lack of encouragement, and personal problems. These factors were similar to those identified by Darkenwald and Valentine (1985).

While the above-mentioned studies among others helped identify deterrents to participation, they revealed little about the extent to which different types of potential learners experience these forces. Valentine and Darkenwald (1990) sought to present a typology of potential learners based on their self-reported deterrents. The main concern was how identified deterrent forces exhibited themselves among different populations. They administered the DPS-G to a sample derived from the general population and revealed five types. Type one were people deterred by personal problems (mostly homemakers); type two were largely deterred by lack of confidence; type three were deterred by educational costs; type four consisted of adults not interested in organized education; and type five were adults not interested in available courses. This study was important in revealing that deterrents to participation are likely to be differentially experienced by groups varyingly influenced by dispositional and situational factors. Adult populations differ substantially in, for example, age, race, gender, social-economic
status etc., which may have some effects on the potency of specific deterrents (Valentine & Darkenwald, 1990). Different groups experience unique combinations of barriers (Hayes, 1988); hence they may rate deterrents differently. This view seems to have driven the many population specific deterrents to participation studies. One such group was the low literacy level groups. Using a self-designed instrument, Beder (1990) investigated reasons for non-participation in adult basic education (ABE) and found four factors: low perception of need; perceived effort (too much effort required); dislike for school; and situational barriers. These closely matched factors in Hayes’ (1988) study of low literate adults which used a special DPS-LL instrument. Five factors emerged including low self-confidence, social disapproval, situational barriers, negative attitudes towards classes, and low personal priority. These factors were similar to Beder’s (1990) except that Hayes (1988) identified low self-confidence and social disapproval as additional factors. King (2002) used the DPS to study barriers affecting GED participation among recent high school dropouts and identified nine factors. They included quality of course, perceived inability, time constraints, motivation, family constraints, logistical barriers, personal priorities, learning style, physical barriers. The highest rated factor was family constraint which included barriers such as lack of encouragement from family and friends, and reduction of time spent with family. Hayes (1988) argued correctly that low literate adults were not a homogenous group with regards to perceptions of barriers to participation. Results from these studies further supported the multidimensional nature of the deterrents construct especially since the deterrents to participation scale has resulted in differences in ratings of barriers even among homogenous groups. King (2002) called for analysis of deterrents to participation in different sub-groups in order to fully understand the deterrents construct.

Johnson, Harrison, Burnett and Emerson (2003) investigated the deterrents to participation by adults in parenting education programs. The DPS-G was administered to a
mostly female sample. A factor analysis identified factors such as: lack of confidence; lack of course relevance; personal problems; situational barriers; and time. These findings were consistent with earlier uses of the instrument. Ballard and Morris (2005) used their own instrument to investigate the likelihood of midlife and older adults attending family life education programs and came up with four deterrents: programmatic deterrents; personal deterrents; time deterrents; and attendance deterrents. The older groups were more deterred by personal problems than younger ones.

However, not all researchers used surveys to investigate deterrents. Cutz and Chandler (2000) used qualitative methods to study non-participation in adult education among the Maya of western Guatemala. They focused on understanding the emic reality (knowledge embedded and indigenous to a people, reproduced by indigenous people) as opposed to the etic reality (knowledge created by experts/researchers). The study revealed emic constructs at four levels (individual, family, community and national) which deterred participation. Most of the deterrents were related to issues of preservation of self-perception and identity as a Mayan male/female. Non-participation was seen as a defense to Mayan ethnic identity which was perceived to be destroyed by educational endeavors. Isaac and Rowland (2002) used qualitative methods to study the perceptions of African Americans of institutional barriers posed by their religious institutions which deter participation in their educational programs. Categories of barriers identified include lack of relevance; programmatic (no new programs); communication; interpretational; individual/personal; and instructional techniques. Religious educator was a unique deterrent identified.

Several studies also sought to determine if any relationships existed between deterrents and various socio-demographic characteristics. Different relationships were identified for different populations. Beder’s (1990) study correlated low perception of need (e.g. it would not
improve my life) with variables such as widowhood, separation, divorce, full time employment among others. Johnson Harrison, Burnett and Emerson (2003) identified lower levels of education, as being associated with high importance on lack of confidence as a deterrent. Number of children correlated with a deterrent labeled time. Lower levels of family income were associated with higher rating of personal problems as a deterrent.

These studies are significant contributors to deterrents research as they have investigated and presented in parsimonious ways the variables which deter participation in educational activities, identified specific typologies of potential learners, and helped determine the influence of demographic variables such as age, sex, income, and educational attainment on perception of deterents.

According to Darkenwald and Valentine (1985) deterrents do not work in isolation. The synergistic effects of multiple deterrents weigh in on the decision to participate in educational activities. Valentine and Darkenwald (1990) argue that adult population differences in say age, race, gender, and social-economic status may have some effects on the potency of specific deterrents. It is thus expected that different populations would rate variedly the importance of various deterrents in influencing their participation decisions. However, there are some deterrent factors that may be considered “universal” since they have been rated by respondents across different studies and populations as important in influencing their decision not to participate in learning activities.

Cross (1981) reviewed research studies on deterrents to participation and found that situational barriers, in particular cost of education and lack of time, led all other barriers by substantial margins. Time and cost are the two most prevalent obstacles to enrolling in a course (Henry & Basile, 1994). Valentine and Darkenwald (1990) identified “time constraints” as a universal deterrent to participation. Other studies that have highlighted time constrains as a

In addition to time and cost issues, a literature review led to an identification of additional deterrent variables that are rated as important in influencing participation decisions across different study populations. These additional variables are based on items from the Deterrents to Participation Scale (Scanlan & Darkenwald, 1984) which is widely used in deterrent to participation studies. The variables met at least two criteria: they were items which had the highest loadings in the identified deterrent factors (at least 0.6 or above loading on a factor) and the variables had to be identified as important in several studies. They are listed below using Cross’s (1981) categorization of barriers as situational, institutional and dispositional.

**Institutional**

- Because the available courses did not seem useful or practical (Darkenwald & Valentine, 1985; Drake, 1988; Johnson et al. 2003; Martindale & Drake, 1989)

- Because I didn’t think the course would meet my needs (Beder, 1990; Darkenwald & Valentine, 1985; Drake, 1988; Johnson et al. 2003; King, 2002; Martindale & Drake, 1989).

- Because the courses available were of poor quality (Darkenwald & Valentine, 1985; Drake, 1988; Johnson et al. 2003; King, 2002; Scanlan & Darkenwald, 1984)

- Because the course was scheduled at an inconvenient time (Darkenwald & Valentine, 1985; Drake, 1988; King, 2002; Martindale & Drake, 1989; Scanlan & Darkenwald, 1984)
Situational

- Because I didn’t have the time for the studying required (Darkenwald & Valentine, 1985; Drake, 1988; Johnson et al. 2003; Martindale & Drake, 1989)
- Because participation would take away from time with my family (Beder, 1990; Johnson et al. 2003; King, 2002; Martindale & Drake, 1989; Scanlan & Darkenwald, 1984)
- Because I can’t afford the registration or course fees (Darkenwald & Valentine, 1985; Drake, 1988; Johnson et al. 2003; King, 2002; Martindale & Drake, 1989; Scanlan & Darkenwald, 1984)
- Because I can’t afford miscellaneous expenses like travel, books etc (Darkenwald & Valentine, 1985; Drake, 1988; King, 2002; Martindale & Drake, 1989; Scanlan & Darkenwald, 1984)

Disposition

- Because I was not confident of my learning ability (Darkenwald & Valentine, 1985; Drake, 1988; Johnson et al. 2003; Martindale & Drake, 1989; Scanlan & Darkenwald, 1984)
- Because I felt I couldn’t compete with younger students (Darkenwald & Valentine, 1985; Johnson et al. 2003; King, 2002; Martindale & Drake, 1989)
- Because I felt I was too old to take the course (Darkenwald & Valentine, 1985; Johnson et al. 2003; King, 2002; Martindale & Drake, 1989)
- Because I felt unprepared for the course (Darkenwald & Valentine, 1985; Drake, 1988; Johnson et al. 2003; King, 2002; Martindale & Drake, 1989)

Many variables deter participation in educational activities. The above variables have been rated as important in deterring participation in educational activities by the different populations studied. Learners are likely to encounter these deterrent variables, since they had the
highest ratings and cut across populations. Hassan (1981) found a negative significant correlation between the number of obstacles perceived by adult learners and their readiness for self-direction in learning. In his analysis of the AETS, Rubenson (2001) noted that when it comes to organized adult education, participants and non-participants mentioned situational barriers to about the same extent. It would not be hard to imagine that the difference between participants and non-participants in such a case would be the ability to overcome barriers to participation. Participants had to overcome those deterrents in order to participate.

Any lifelong learner should have the capacity to overcome at least the deterrent factors identified above if they are to participate continuously in educational endeavors. Hence any conception of lifelong learning readiness should incorporate an assessment of readiness to overcome the above deterrents to participation in educational activities. Lifelong learners are more likely to self-identify as being able to overcome such deterrents since it is likely that they have had to overcome them before in their lifelong learning pursuits.

**Summary**

The rapid and pervasive nature of change witnessed since the 1960’s has necessitated the debates on the importance of lifelong learning at national levels. At the core of these debates is the issue of competitiveness for economies, organizations and individuals in the face of global competition and rapid technological change. Also discussed is the need for individuals to adapt to the increasing complexity of social and private life. Whereas the acknowledgement of the importance of lifelong learning is almost universal, the key challenge still is getting larger segments of the population to engage in lifelong learning. Participation statistics show that whereas adult participation in learning has increased over the years, there is still great opportunity for improvement not just for the general population, but also for groups that have continued to be underrepresented in adult learning activities. It is in recognition of the
participation problem that governments and educational institutions have commissioned studies on, and unveiled policy changes to widen participation in adult learning activities. However these have mainly focused on vocational-related learning and what institutions should do.

Studies to understand lifelong learning from the learner’s perspective have also been undertaken. Among these are studies aimed at investigating the readiness of individuals to engage in lifelong learning. According to Marsick and Watkins (1997) people differ in their readiness for learning. Past studies on readiness for lifelong learning have either focused on career related learning (e.g. Hojat et. al., 2003) or they have used self-directed learning readiness as a measure of lifelong learning readiness (e.g. White, 2001). This study offers a broader conceptualization of readiness for lifelong learning as incorporating readiness to respond to triggers for learning, self-directed learning readiness, and readiness to overcome barriers to participation.
CHAPTER 3

METHODOLOGY

Population and Sample

The target population for this study was adults who volunteer to a 4-H youth development program. The accessible population was adult volunteers whose emails were available from the volunteer enrollment database system of a state 4-H Youth Development Program located in the Southern Region of the United States. The researcher obtained 2053 email addresses which represented the total number of volunteers of the state 4-H Youth Development Program who had already provided their email addresses in the volunteer enrollment database system. A total of 238 email addresses were erroneous or undeliverable. A final accessible population of 1815 volunteers, whose emails were usable, was targeted for this study. This study was considered a census (100% sample) of all those adult volunteers who had provided usable email addresses in the 4-H Youth Development Program volunteer enrollment database system.

Ethical Considerations and Study Approval

Prior to collecting data, an application for exemption from institutional oversight was submitted to the LSU Institutional Review Board. The study was granted approval # E4365 (Appendix A).

Instrumentation

An extensive review of the literature determined that no existing instrument entirely and satisfactorily demonstrated fidelity to the conceptualization of readiness for lifelong learning adopted for this study. Readiness for lifelong learning in this study is conceptualized as incorporating adults’ responses to triggers for learning, self-directed learning readiness and readiness to overcome deterrents to participation in learning. Therefore an instrument was
created with three sections: readiness to respond to triggers for learning, self-directed learning readiness, and readiness to overcome deterrents to participation in learning. Two sections of the questionnaire were created based on an extensive literature review and one section consisted of items drawn from an existing instrument. The instrument also contained a section designed to solicit the demographic information of the respondents.

The first section contains items which assess the readiness to respond to triggers for learning (changes in life circumstances). Empirical studies by Aslanian and Brickell (1980a) and Tough (1979) identified changes in life circumstances rated highly by adults as triggering learning which fall within three broad areas of adult life: job and career; home and personal responsibilities; and leisure. A total of 29 items that represent changes in life circumstances in the three broad areas of adult life were developed for this section. Respondents were directed to rate the likelihood that they would seek and participate in learning activities when faced with those circumstances on a four point Likert-type scale: 1= very unlikely, 2= unlikely, 3= likely, and 4= very likely.

The second section contains items which assess self-directed learning readiness. The items for this section were adapted from the Self-Directed Learning Readiness Scale (SDLRS) developed by Fisher, King and Tague (2001) which reflect the attributes, skills and motivational factors required of self directed learners. The SDLRS has 40 items and a reported Cronbach alpha .924. However, the SDLRS was designed to assess work-related self-directed learning readiness for nurses. Several changes were made to the adapted items to ensure they were in line with the broader conceptualization of lifelong learning taken in this study with regards to accommodating other reasons for learning, not just work-related, and other forms of learning such as informal learning. Items which had a work or performance emphasis were either rephrased or deleted. Negatively- phrased or reverse-coded items were rephrased. Rutledge
(2006) in a study of graduate nursing students’ self-directed learning readiness using the SDLRS developed by Fisher, King and Tague (2001) found that three reverse-coded items had low item-to-total correlations. Other studies, such as Brockett (1985b), using another SDLRS instrument (Guglielmino, 1977) found that negatively-phrased items were a source of invalidity. A total of thirty-two items were retained for this section. Respondents were directed to rate the degree to which each item measures a characteristic of themselves on a four-point Likert-type scale: 1= strongly disagree, 2= disagree, 3= agree, and 4= strongly agree.

The third section contains items that measure the readiness to overcome deterrents to participation in learning. A literature review of deterrents to participation in learning studies led to an identification of deterrent variables that were rated as important in influencing participation decisions across different study populations. Most studies reviewed used various versions of the Deterrents to Participation Scale (Scanlan & Darkenwald, 1984), which is widely used in deterrent to participation studies. The variables selected met at least two criteria: they were items which had the highest loadings in the identified deterrent factors (at least 0.6 or above loading on a factor) and the variables had to be identified as important in several studies. Based on identified deterrents, 15 items were constructed for this section of the questionnaire to assess the respondents’ perception of overcoming those deterrents. Respondents were asked to rate their level of agreement with those statements on a four-point Likert-type scale: 1= strongly disagree, 2= disagree, 3= agree, and 4= strongly agree.

The instrument was also used to collect demographic information. According to Desjardins, Rubenson, and Milana (2006) age, gender, formal education (highest educational level completed), socio-economic background (yearly net income), employment status, and race affect adult participation in learning. Other demographic information collected include: current occupation category; length in current employment; number of times the volunteer has changed
jobs in the past five years; whether or not volunteer’s current employment requires continuous certification; marital status; presence of children at home; length of time volunteering; and the format in which volunteer prefers learning.

**Questionnaire Pretesting**

The instrument was reviewed by three subject-matter (SME’s) experts to establish face and content validity. The SME’s have expertise in the following areas: adult education, social science research, volunteer development and 4-H youth development. Appropriate revisions were made to the instrument based on the input of each SME with regards to the necessity, relevance, structure and clarity of each question and instructions.

Twenty graduate students attending a doctoral level Research Methods class in the School of Human Resource Education and Workforce Development (SHREWD) were asked to respond to the questionnaire and offer feedback as to the necessity, relevance, structure, and clarity of each of the questions and instructions. They also offered feedback on the length and overall ease in completing the questionnaire. Most of the students were in the Adult Education, Human Resource Development or Agricultural Extension concentration area within the SHREWD. The feedback of these students was useful since they were in an advanced research methods class, and their specialization areas exposed them to an understanding of adult learning principles.

Finally, 15 members of a church were requested to respond to the questionnaire. Feedback on issues such a readability, clarity, amount of time taken to complete the survey, and overall ease in completing the survey were solicited. These members views were meant to approximate the adult volunteers of the 4-H Youth Development program that were the target of this survey.
Based on the feedback received, appropriate revisions were made to the questionnaire. Of the many revisions made to the questionnaire, the biggest change that was made was on the scale for the “Readiness to Respond to Triggers for Learning” section of the questionnaire. Initially, respondents were directed to rate the likelihood that they would seek and participate in learning activities when faced with certain circumstances believed to triggers adult engagement with learning on a four-point Likert-type scale: 1= very unlikely, 2= unlikely, 3= likely and 4= very likely. Many respondents in the pre-testing stage identified that some circumstances that were listed would not be applicable to them. Hence, the researcher included “not-applicable” in the scale to cater to that need. Hence the scale for the “Readiness to Respond to Triggers for Learning” section was a five-point Likert-type scale: 1= very unlikely, 2= unlikely, 3= likely and 4= very likely, 5= not-applicable. As for the Self-Directed Learning Readiness and Readiness to Overcome Deterrents to Participation sections, the four-point Likert-type scale: 1= strongly disagree, 2= disagree, 3= agree, and 4= strongly agree was retained.

The Readiness for Lifelong Learning questionnaire consists of three sections: Readiness to Respond to Triggers for Learning; Readiness to overcome deterrents to Learning; and Self-Directed Learning Readiness. The first two sections were developed by the researcher, while the last section was adapted and modified from an existing questionnaire. Since two sections of this survey were new, and one section had been modified from an existing questionnaire, Factor Analysis was undertaken to examine the structure of interrelationships between the variables generated by this questionnaire to reveal any underlying dimensions or factors.

In this case, Exploratory Factor Analysis (EFA) was performed on the data generated from this study to examine whether there were any underlying factors measured by the instrument based on the inter-correlations between the variables. These underlying factors are supposed to be fewer in number but still parsimoniously represent the original set of
observations. The EFA is useful in searching for structure among a set of variables without setting a priori constrains on the estimation of components or the number of components to be extracted. This method is appropriate when the researcher has no pre-conceived thoughts on the actual structure of the data (Hair, Anderson, Tatham & Black, 1998), as is the case when a researcher has a newly developed questionnaire. EFA was conducted for each of the three sections that comprise the Readiness for Lifelong Learning Survey.

Before conducting EFA, a few tests were administered for each scale to determine whether the data were appropriate for Factor Analysis. They include a visual exam of the correlation matrix, Bartlett’s Test of Sphericity, and the Kaiser-Meyer-Olkin (KMO) Measure of Sampling Adequacy. The correlation matrix summarizes the interrelationships among the items or variables in the scale (Pett, Lackey, & Sullivan, 2003). The correlations range from -1.0 to +1.0, with values closer to one in either direction indicating a stronger positive or negative relationship between variables. The first step was a visual inspection of the correlation matrix for each of the three sections to see if they had sufficient correlations to support a factor analysis. Hair, Anderson, Tatham and Black (1998) suggest that the correlation matrix should have a substantial number of correlations greater that .30. The Bartlett’s Test of Sphericity was also conducted for each of the three scales that form the Readiness for Lifelong Learning Scale. The test provides a statistical probability that the correlation matrix has significant correlations among some of the variables (Hair, Anderson, Tatham, & Black, 1998). It tests the null hypothesis that the correlation matrix is an identity matrix (Pett, Lackey, & Sullivan, 2003). The null hypothesis is rejected with larger values of the Bartlett’s test. Finally, Kaiser-Meyer-Olkin (KMO) Measure of Sampling Adequacy was undertaken. Kaiser (as cited in Pett, Lackey, & Sullivan, 2003) suggests a value of 0.60 as a minimum score for the KMO.
After the tests, the factor structure of each of the three scales was explored by means of a Common Factor Analysis (CFA) which derives factors based on common variance. According to Hair, Anderson, Tatham and Black (1998) CFA is most appropriate “when the primary objective is to identify latent dimensions or constructs represented in the original variables, and the researcher has little knowledge about the amount of specific and error variance and therefore wishes to eliminate this variance…” (p. 102). Principal Axis Factoring extraction was deemed appropriate for this study and a Promax (Oblique) rotation was used to obtain a simpler factor structure.

According to Hair, Anderson, Tatham and Black (1998) researchers seldom use a single criterion to determine how many factors to extract. The number of underlying factors to extract was jointly determined by the Kaiser Criteria (factors with an eigenvalue greater than 1), percentage of variance criterion (percentage of total variance extracted by successive factors > 5%), and by examination of the Cattell Scree plot. Factor loadings greater than +/- 0.30 met the minimum criteria to be considered for interpretation. In addition to using the above guidelines in determining the factors to extract, the practicality and interpretability of the factors affected the final factor selection at which the researcher arrived.

**Data Collection**

The survey was administered via an online survey system (Zoomerang). The online survey system was considered economical and convenient especially since the state 4-H Youth Development organization used in this study had a enrollment database for volunteers complete with their email addresses. All those adult volunteers who had provided usable email addresses in the 4-H Youth Development Program volunteer enrollment database system were surveyed in this study.
According to Dillman (2007), multiple contacts are essential for maximizing response to surveys. He suggests at least five contacts with respondents. A total of seven contacts with respondents were undertaken in this study, with the two additional contacts being undertaken to mitigate a low response rate. The following process was undertaken to collect the data:

1. Two days prior to administering the survey, a brief letter was sent via email notifying respondents of the upcoming study, its importance and requesting their participation.

2. The web-based questionnaire was emailed two days after the pre-survey notification. The email consisted of an electronic cover letter requesting the respondents’ participation and providing instructions for completing the survey including the url-link leading to the survey. All respondents who preferred to respond to a hard-copy questionnaire were asked to provide their physical address via a provided email address, and they would be mailed a questionnaire.

3. One week after sending the email with the url-link, all non-respondents were sent a friendly email reminder with an URL-link to the survey.

4. Two weeks following the email reminder, all non-respondents were sent another email, stressing the importance of their participation and a url-link to the survey.

5. One week later, non-respondents were sent a reminder stressing the importance of the study and a url-link leading to the survey.

6. In an effort to increase the response rate, an additional reminder was sent out one week later. The reminder stressed the importance of the study and it also provided the url-link to the survey.

7. The researcher requested the Volunteer and Leader Specialist with the state 4-H Youth Development organization used in this study to send the last reminder, encouraging the respondents to participate in this study. This was in an effort to increase the response rate.
A total of 320 respondents completed the web-based questionnaire and 4 respondents completed the hard-copy questionnaire. A careful examination of the responses revealed cases where some respondents had completed the web-based questionnaire more than once. It was discovered that some volunteers were enrolled more than once in the volunteer enrollment database, in some cases providing different email addresses. All responses were carefully examined to eliminate cases of double responses. In cases where a respondent was found to have responded twice to the questionnaire, the response with the most completed number of questions was kept while the other one was deleted. In cases where a respondent was found to have responded twice to the questionnaire, and both responses were complete, the first response was retained. The final response count was 277 responses out of a possible 1815 respondent (15.3% response rate).

In order to determine if there were any statistically significant differences between respondents and non-respondents, a comparison was made between the overall mean score of early respondents and that of late respondents. Statistically significant differences were not found between early and late respondents, and it was thus concluded that no statistically significant differences existed between the respondent and non-respondents in this study.

**Data Analysis**

Below is a description of how data collected will be analyzed for each objective:

**Objective One**

Objective one was descriptive in nature and was analyzed using descriptive statistical techniques. Adult volunteers affiliated with a 4-H Youth Development Program in the southern region of the United States were described on the following variables: age, gender, ethnicity, highest level of education completed, yearly net income, marital status, presence of children at home, employment status, length in current employment position, current occupational category,
whether or not volunteer’s current employment requires continuous certification/licensure, number of times respondent has changed jobs in the last five years, length of time volunteering, and the format in which respondents prefer learning.

The above demographic variables were summarized using frequencies and percentages in each category. Additionally, means and standard deviations of the interval variables age, number of times the volunteer has changed jobs in the past five years, and length of time volunteering were calculated.

**Objective Two**

Objective two was to determine the readiness for lifelong learning of adult volunteers affiliated with a 4-H Youth Development Program in the southern region of the United States as measured by the Readiness for Lifelong Learning Scale. First, exploratory factor analysis was conducted for each of the three sections of the scale with the aim of uncovering the structure of interrelationships of the variables in the scale and defining a common set of underlying dimensions or factors. Principal axis factoring extraction with promax oblique rotation was utilized. Factors with eigenvalues greater than 1 were retained for interpretation.

Each respondent’s level of readiness for lifelong learning was determined by a summation of the sub-scale scores of the three sections of the Readiness for Lifelong Learning Survey. The objective was descriptive in nature and was analyzed through the calculation of means and standard deviations of the summated scores.

**Objective Three**

Objective three was to determine whether differences exist in the readiness for lifelong learning as measured by the Readiness for Lifelong Learning Scale on selected demographic characteristics which include:

a) Gender
b) Ethnicity

c) Highest educational level completed

d) Yearly net income

e) Marital status

f) Presence of children at home

g) Employment status

h) Current occupational category

i) Whether or not volunteer’s current employment requires continuous certification

j) Format in which respondents prefer learning

The objective was accomplished through the analysis of Independent t-tests and One-way Analysis of Variance. Levene’s Test was used to examine the homogeneity of variance. The interval variable overall readiness for lifelong learning was determined by the summation of the sub-scale scores from the three sections that comprised the readiness for lifelong learning survey. The overall readiness for lifelong learning item mean score was compared among the groups or levels within the above demographic variables.

**Objective Four**

Objective four is to determine whether a model exists which would explain a significant portion of the variance of readiness for lifelong learning as measured by the Readiness for Lifelong Learning Survey from the subscales or latent factors and associated variables that emerge statistically following a factor analysis of the dataset, and the demographic characteristics of age, gender, income, highest educational level completed and employment status.

Objective four will be accomplished through multiple regression analysis. The sum of items emerging as indicators of the latent constructs will be calculated to represent the dependent
variables. Demographic variables age, gender, income, highest educational level and employment status will be entered stepwise into the equation as a block owing to the exploratory nature of the study. There will be as many separate multiple equations as there will be sub-scales that emerge statistically after factor analysis of the collected data.
CHAPTER 4

RESULTS

The primary purpose of this study was to explore and determine the readiness for lifelong learning of volunteers affiliated with a 4-H Youth Development program in the southern region of the United States. The results of this study organized around four objectives are presented in this chapter.

Objective One

Objective one was to describe adult volunteers affiliated with a 4-H Youth Development Program in the southern region of the United States on the following demographic characteristics:

a) Age
b) Gender
c) Ethnicity
d) Highest educational level completed
e) Yearly net income
f) Marital Status
g) Presence of children at home
h) Employment status
i) Length in current employment position
j) Current occupational category
k) Whether or not volunteer’s current employment requires continuous certification
l) Number of times respondent has changed jobs in the last five years
m) Length of time volunteering
n) Format in which respondents prefer learning
**Age**

Participants were asked to provide their actual ages, which were then grouped into the following categories: 1) 18-25; 2) 26-35; 3) 36-45; 4) 46-55; 5) 55-65; 6) 65 and above. The ages ranged from 19 to 75 years. The largest group of respondents indicated their age fell between 36 and 45 years (n = 96, 35%). The second largest group indicated their age fell between 46 and 55 years (n = 91, 33.2%). Table 3 illustrates the distribution of age of respondents.

<table>
<thead>
<tr>
<th>Age in Years</th>
<th>n</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>36-45</td>
<td>96</td>
<td>35.0</td>
</tr>
<tr>
<td>46-55</td>
<td>91</td>
<td>33.2</td>
</tr>
<tr>
<td>56-65</td>
<td>38</td>
<td>13.9</td>
</tr>
<tr>
<td>26-35</td>
<td>36</td>
<td>13.1</td>
</tr>
<tr>
<td>18-25</td>
<td>7</td>
<td>2.6</td>
</tr>
<tr>
<td>65 and above</td>
<td>6</td>
<td>2.2</td>
</tr>
<tr>
<td>Total</td>
<td>274</td>
<td>100.0</td>
</tr>
</tbody>
</table>

Note: Three respondents failed to respond to the age item on the questionnaire.

Gender

The study participants were also described on gender. Majority of the respondents indicated their gender as female (n = 230, 83.9%) while 44 respondents (16.1%) indicated their gender as male. Three respondents failed to indicate their gender.

Ethnicity

The respondents were further described on the ethnicity variable. Majority of the respondents identified themselves as Caucasians (n = 238, 87.2%). The second largest group identified themselves as African American (n = 28, 10.3%). Table 4 illustrates data regarding the ethnicity of the respondents.
Table 4
Self-Identified Ethnicity of Adult Volunteers Affiliated with a 4-H Youth Development Program in the Southern Region of the United States

<table>
<thead>
<tr>
<th>Ethnicity</th>
<th>N</th>
<th>Percentage a</th>
</tr>
</thead>
<tbody>
<tr>
<td>Caucasian</td>
<td>238</td>
<td>87.2</td>
</tr>
<tr>
<td>African American</td>
<td>28</td>
<td>10.3</td>
</tr>
<tr>
<td>Asian</td>
<td>1</td>
<td>0.4</td>
</tr>
<tr>
<td>Hispanic</td>
<td>1</td>
<td>0.4</td>
</tr>
<tr>
<td>Native American</td>
<td>1</td>
<td>0.4</td>
</tr>
<tr>
<td>Other</td>
<td>4</td>
<td>1.5</td>
</tr>
<tr>
<td>Total</td>
<td>273</td>
<td>100.0</td>
</tr>
</tbody>
</table>

Note: Four respondents failed to respond to the ethnicity item on the questionnaire
a Total rounded to 100.0%

**Highest Level of Education Completed**

Regarding the highest level of education completed, the largest group of the respondents (n = 117, 43.0%) reported completion of a Bachelor of Arts or Science degree. The second largest group (n = 82, 30.1%) reported Masters Degree as the highest level of education completed. Three respondents (1.1%) reported a doctorate as the highest level of education completed. Table 5 illustrates data regarding the highest level of education completed by the respondents.

Table 5
Highest Level of Education Completed by Adult Volunteers Affiliated with a 4-H Youth Development Program in the Southern Region of the United States

<table>
<thead>
<tr>
<th>Level of Education</th>
<th>n</th>
<th>Percentage a</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bachelors Degree (BA/BS)</td>
<td>117</td>
<td>43.0</td>
</tr>
<tr>
<td>Masters Degree (MA/MS/MBA)</td>
<td>82</td>
<td>30.1</td>
</tr>
<tr>
<td>Some College</td>
<td>26</td>
<td>9.6</td>
</tr>
<tr>
<td>High School Diploma</td>
<td>14</td>
<td>5.1</td>
</tr>
<tr>
<td>Associate Degree</td>
<td>13</td>
<td>4.8</td>
</tr>
<tr>
<td>Vocational/Technical School Degree</td>
<td>8</td>
<td>2.9</td>
</tr>
<tr>
<td>Some Vocational/Technical School</td>
<td>5</td>
<td>1.8</td>
</tr>
<tr>
<td>Professional Degree (J.D./M.D.)</td>
<td>4</td>
<td>1.5</td>
</tr>
<tr>
<td>Doctoral Degree (Ph.D./Ed.D./Psy.D.)</td>
<td>3</td>
<td>1.1</td>
</tr>
<tr>
<td>Less than High School</td>
<td>0</td>
<td>0.0</td>
</tr>
<tr>
<td>Total</td>
<td>272</td>
<td>100.0</td>
</tr>
</tbody>
</table>

Note: Five respondents failed to respond to the highest level of education item on the questionnaire
a Total rounded to 100.0%
**Yearly Net Income**

On their yearly net incomes, the largest number of respondents ($n = 107, 41.3\%$) reported that their yearly net incomes fell between $25,000 and $50,000. The smallest number of respondents ($n = 19, 7.3\%$) reported that their net yearly income was above 100,000. Table 6 illustrates data regarding yearly net incomes of survey participants.

Table 6

Yearly Net Incomes as Reported by Adult Volunteers Affiliated with a 4-H Youth Development Program in the Southern Region of the United States

<table>
<thead>
<tr>
<th>Income Range in United States Dollars</th>
<th>N</th>
<th>Percentage$^a$</th>
</tr>
</thead>
<tbody>
<tr>
<td>25,001-50,000</td>
<td>107</td>
<td>41.3</td>
</tr>
<tr>
<td>50,001-75,000</td>
<td>70</td>
<td>27.0</td>
</tr>
<tr>
<td>75,001-100,000</td>
<td>35</td>
<td>13.5</td>
</tr>
<tr>
<td>Less than 25,000</td>
<td>28</td>
<td>10.8</td>
</tr>
<tr>
<td>Greater than 100,000</td>
<td>19</td>
<td>7.3</td>
</tr>
<tr>
<td>Total</td>
<td>259</td>
<td>100.0</td>
</tr>
</tbody>
</table>

*Note:* Eighteen respondents failed to respond to the yearly net income item on the questionnaire

$^a$Total rounded to 100.0%

**Marital Status**

Respondents were also asked to indicate their marital status. Of all the respondents majority reported being married ($n = 214, 79.3\%$). The second largest group reported being single/never married ($n = 26, 9.6\%$). The group featuring the least number of respondents was widowed ($n = 8, 3.0\%$). Table 7 illustrates the marital status data for the respondents.

Table 7

Marital Status Reported by Adult Volunteers Affiliated with a 4-H Youth Development Program in the Southern Region of the United States

<table>
<thead>
<tr>
<th>Marital Status</th>
<th>N</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Married</td>
<td>214</td>
<td>79.3</td>
</tr>
<tr>
<td>Single/Never Married</td>
<td>26</td>
<td>9.6</td>
</tr>
<tr>
<td>Divorced</td>
<td>20</td>
<td>7.4</td>
</tr>
<tr>
<td>Widowed</td>
<td>8</td>
<td>3.0</td>
</tr>
<tr>
<td>Separated</td>
<td>2</td>
<td>0.7</td>
</tr>
<tr>
<td>Total</td>
<td>270</td>
<td>100.0</td>
</tr>
</tbody>
</table>

*Note:* Seven respondents failed to respond to the marital status item on the questionnaire
Presence of Children at Home

Respondents were also asked if they had any children at home. The largest group of respondents (n = 184, 67.9%) reported having children at home. Eighty-seven respondents (32.1%) indicated that they do not have children at home. Six respondents failed to provide a response to this question.

Employment Status

Respondents additionally provided information about their current employment status. Majority of the respondents reported being employed full time (n = 226, 82.5%). The categories with the lowest number of respondents were “Employed on a contract basis” (n = 9, 3.3%) and “Unemployed” (n = 10, 3.6%). Table 8 illustrates information about respondent’s employment status.

Table 8
Current Employment Status as Reported by Adult Volunteers Affiliated with a 4-H Youth Development Program in the Southern Region of the United States

<table>
<thead>
<tr>
<th>Employment Status</th>
<th>N</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Employed Full Time</td>
<td>226</td>
<td>82.5</td>
</tr>
<tr>
<td>Employed Part Time</td>
<td>17</td>
<td>6.2</td>
</tr>
<tr>
<td>Retired</td>
<td>12</td>
<td>4.4</td>
</tr>
<tr>
<td>Unemployed</td>
<td>10</td>
<td>3.6</td>
</tr>
<tr>
<td>Employed on a Contract Basis</td>
<td>9</td>
<td>3.3</td>
</tr>
<tr>
<td>Total</td>
<td>274</td>
<td>100.0</td>
</tr>
</tbody>
</table>

Note: Three respondents failed to respond to the employment status item

Length in Current Employment Position

Study participants were invited to indicate how long they have been employed in their current position. Respondents provided their actual individual length of time in their current employment which the researcher subsequently grouped into categories (See Table 9). The largest group of respondents (n = 111, 43.4%) reported being in their current employment for between 1 and 10 years. Sixty-six respondents (25.8%) reported being in their current employment for between 10 and 20 years.
Table 9
Length in Current Employment Reported by Adult Volunteers Affiliated with a 4-H Youth Development Program in the Southern Region of the United States

<table>
<thead>
<tr>
<th>Length in Current Employment</th>
<th>n</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.01 - 10 years</td>
<td>111</td>
<td>43.4</td>
</tr>
<tr>
<td>10.01 - 20 years</td>
<td>66</td>
<td>25.8</td>
</tr>
<tr>
<td>20.01 – 30 years</td>
<td>42</td>
<td>16.4</td>
</tr>
<tr>
<td>30.01 – 40 years</td>
<td>22</td>
<td>8.6</td>
</tr>
<tr>
<td>One year or less</td>
<td>12</td>
<td>4.7</td>
</tr>
<tr>
<td>0 Years (Not currently employed)</td>
<td>3</td>
<td>1.2</td>
</tr>
<tr>
<td>Total</td>
<td>256</td>
<td>100.0</td>
</tr>
</tbody>
</table>

Note: Twenty one respondents failed to respond to the length in current employment item on the questionnaire

\[ \text{M} = 19.85; \text{SD} = 24.72 \]

Total rounded to 100.0%

Current Occupational Category

Respondents were presented with three occupational categories and asked to select the one category that described their current occupation. Examples of occupations within each category were provided to aid respondents in their choice (See Appendix B). The majority of the respondents (n = 217, 88.9%) categorized their occupation as professional/managerial. Table 10 illustrates the current occupational category of the respondents.

Table 10
Current Occupational Categories of Adult Volunteers Affiliated with a 4-H Youth Development Program in the Southern Region of the United States

<table>
<thead>
<tr>
<th>Current Occupational Category</th>
<th>N</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Professional/Managerial</td>
<td>217</td>
<td>88.9</td>
</tr>
<tr>
<td>Sales/Service/Support</td>
<td>22</td>
<td>9.0</td>
</tr>
<tr>
<td>Trade/Labor</td>
<td>5</td>
<td>2.1</td>
</tr>
<tr>
<td>Total</td>
<td>244</td>
<td>100.0</td>
</tr>
</tbody>
</table>

Note: Thirty three respondents failed to respond to the current Occupational category item on the questionnaire

Current Employment Requires Continuous Certification/Licensure

A total of 175 respondents (66.8%) indicated that their current employment requires continuous certification or licensure. The remaining 87 respondents (33.2%) indicated that their
current employment did not require continuous certification. Fifteen respondents failed to respond to this questionnaire item.

**Number of Times Respondent Has Changed Jobs in the Last Five Years**

Respondent were additionally asked to indicate how many times they had changed jobs in the last five years. Majority (n = 191, 72.6%) indicated they had not changed jobs in the last five years. About 10 respondents (3.8%) indicated having changed jobs more than 3 times. Table 11 illustrates responses to the above question item.

Table 11

Number of Times Adult Volunteers Affiliated with a 4-H Youth Development Program in the Southern Region of the United States Changed Jobs in the Last Five Years

<table>
<thead>
<tr>
<th>Number of times</th>
<th>n&lt;sup&gt;a&lt;/sup&gt;</th>
<th>Percentage&lt;sup&gt;b&lt;/sup&gt;</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>191</td>
<td>73.2</td>
</tr>
<tr>
<td>1</td>
<td>47</td>
<td>18.0</td>
</tr>
<tr>
<td>2</td>
<td>14</td>
<td>5.4</td>
</tr>
<tr>
<td>3</td>
<td>5</td>
<td>2.2</td>
</tr>
<tr>
<td>5</td>
<td>3</td>
<td>1.9</td>
</tr>
<tr>
<td>6</td>
<td>1</td>
<td>0.4</td>
</tr>
<tr>
<td>Total</td>
<td>261</td>
<td>100.0</td>
</tr>
</tbody>
</table>

Note: Sixteen respondents failed to respond to this item on the questionnaire

<sup>a</sup> M = 6.12; SD = 23.06;

<sup>b</sup> Total rounded to 100.0%

**Length of Time Volunteering**

Respondents were asked to indicate how long they had volunteered with the 4-H Youth Development Organization. Each respondent provided the length of time they had been volunteering, which was then placed in categories (See Table 12). About 165 respondents (65.2%) reported having volunteered for between 1 and 10 years.

Table 12

Length of Time the Adult Volunteers Report Having Volunteered with the 4-H Youth Development Program in the Southern Region of the United States

<table>
<thead>
<tr>
<th>Length of Time Volunteering</th>
<th>n&lt;sup&gt;a&lt;/sup&gt;</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.01 - 10 years</td>
<td>165</td>
<td>65.2</td>
</tr>
<tr>
<td>10.01 - 20 years</td>
<td>42</td>
<td>16.6</td>
</tr>
<tr>
<td>One year or less</td>
<td>21</td>
<td>8.3</td>
</tr>
</tbody>
</table>

(Table continued)
<table>
<thead>
<tr>
<th>Age Group</th>
<th>n</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>20.01 - 30 years</td>
<td>15</td>
<td>5.9</td>
</tr>
<tr>
<td>30.01 - 40 years</td>
<td>6</td>
<td>2.4</td>
</tr>
<tr>
<td>0 Years (Never volunteered)</td>
<td>3</td>
<td>1.2</td>
</tr>
<tr>
<td>40.01 – 50 years</td>
<td>1</td>
<td>0.4</td>
</tr>
<tr>
<td>Total</td>
<td>253</td>
<td>100.0</td>
</tr>
</tbody>
</table>

*Note:* Twenty four respondents failed to respond to the item for length of time volunteering

\[ M = 16.06; SD = 26.77 \]

**Format in Which Respondents Prefer Learning**

Of the various formats for learning, respondents were directed to indicate preference for one format. One hundred and fifty four respondents (59.5%) reported preference for workshops (See Table 13). The least preferred format for learning was mail correspondence \( n = 8, 3.1\% \).

**Table 13**
Preference for a Format for Learning Expressed by Adult Volunteers Affiliated with the 4-H Youth Development Program in the Southern Region of the United States

<table>
<thead>
<tr>
<th>Preference for a Format for Learning</th>
<th>n</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Workshops</td>
<td>154</td>
<td>59.5</td>
</tr>
<tr>
<td>Web-Based/Online Training</td>
<td>69</td>
<td>26.6</td>
</tr>
<tr>
<td>Formal Classes</td>
<td>14</td>
<td>5.4</td>
</tr>
<tr>
<td>Mentoring</td>
<td>14</td>
<td>5.4</td>
</tr>
<tr>
<td>Mail Correspondence</td>
<td>8</td>
<td>3.1</td>
</tr>
<tr>
<td>Total</td>
<td>259</td>
<td>100.0</td>
</tr>
</tbody>
</table>

*Note:* Eighteen respondents failed to respond to the item for preference for a learning format

**Objective Two**

Objective two was to determine the readiness for lifelong learning of adult volunteers affiliated with a 4-H Youth Development Program in the southern region of the United States as measured by the Readiness for Lifelong Learning Scale. Each respondent’s level of readiness for lifelong learning score was determined by a summation of the sub-scale scores of the three sections of the Readiness for Lifelong Learning Survey. Therefore each individual’s readiness for lifelong learning score was obtained summing up the individual’s summated scores from each of the three sections of the survey. The objective was descriptive in nature and was analyzed through the calculation of means and standard deviations of the summated scores.
Each of the three sections of the Readiness for Lifelong Learning survey was first individually subjected to factor analytic procedures to investigate their underlying dimensions or factors based on the interrelationships of the variables in the scales.

**Self-Directed Learning Readiness**

Respondents were presented with a list of characteristics related to self-directed learning readiness and were asked to rate the extent to which each item measured a characteristic of themselves on a four-point Likert-type scale: 1= strongly disagree, 2= disagree, 3= agree, and 4= strongly agree. The following scale was created by the researcher to aid in the interpretation of the responses: 1 – 1.75= strongly disagree, 1.76 – 2.50= disagree, 2.51 – 3.25= agree, and 3.26 – 4.00= strongly agree.

As part of the analysis, the means and standard deviations of the responses to each item in the Self-Directed Learning Readiness (SDL) part of the survey was calculated. The item that received the highest level of agreement from respondents was “I have high personal Standards” with a mean 3.67 (SD= 0.47). The item that received the second highest level of agreement from respondents was “I am responsible” with a mean of 3.66 (SD= 0.48). Using the interpretive scale, both were in the “strongly agree” range. The item with the lowest level of agreement was “I set specific times for my study” with a mean of 2.57 (SD= 0.65). The item with the second lowest level of agreement was “I prefer to set my own criteria on which to evaluate my learning” with a mean of 2.92 (SD= 0.59). The response to both items fell within the “agree” range. Overall, the response to most items (27 items) fell within the “agree” range on the interpretive scale. Table 14 below illustrates the mean scores and standard deviation for each item representing respondents’ levels of agreement with self-directed learning (SDL) characteristics.
Table 14
Description of the Level of Agreement of Adult Volunteers Affiliated with the 4-H Youth Development Program in the Southern Region of the United States with Statements Reflecting Self-Directed Learning Readiness Characteristics

<table>
<thead>
<tr>
<th>Self-Directed Learning Readiness Items</th>
<th>M</th>
<th>SD</th>
<th>Category</th>
</tr>
</thead>
<tbody>
<tr>
<td>SDL14. I have high personal standards</td>
<td>3.67</td>
<td>.471</td>
<td>SA</td>
</tr>
<tr>
<td>SDL11. I am responsible</td>
<td>3.66</td>
<td>.476</td>
<td>SA</td>
</tr>
<tr>
<td>SDL28. I am responsible for my decisions/actions</td>
<td>3.64</td>
<td>.480</td>
<td>SA</td>
</tr>
<tr>
<td>SDL13. I have high personal expectations</td>
<td>3.62</td>
<td>.523</td>
<td>SA</td>
</tr>
<tr>
<td>SDL31. I like to make decisions for myself</td>
<td>3.50</td>
<td>.527</td>
<td>SA</td>
</tr>
<tr>
<td>SDL8. I learn from my mistakes</td>
<td>3.48</td>
<td>.527</td>
<td>A</td>
</tr>
<tr>
<td>SDL22. I enjoy learning new information</td>
<td>3.43</td>
<td>.531</td>
<td>SA</td>
</tr>
<tr>
<td>SDL17. I am confident in my ability to search out information</td>
<td>3.43</td>
<td>.530</td>
<td>SA</td>
</tr>
<tr>
<td>SDL9. I am open to new ideas</td>
<td>3.43</td>
<td>.543</td>
<td>A</td>
</tr>
<tr>
<td>SDL21. I want to learn new information</td>
<td>3.42</td>
<td>.499</td>
<td>SA</td>
</tr>
<tr>
<td>SDL10. When presented with a problem I cannot resolve, I will ask for assistance</td>
<td>3.41</td>
<td>.561</td>
<td>SA</td>
</tr>
<tr>
<td>SDL30. I can find out information for myself</td>
<td>3.41</td>
<td>.524</td>
<td>SA</td>
</tr>
<tr>
<td>SDL6. I need to know why</td>
<td>3.38</td>
<td>.591</td>
<td>SA</td>
</tr>
<tr>
<td>SDL15. I have high beliefs in my abilities</td>
<td>3.38</td>
<td>.569</td>
<td>SA</td>
</tr>
<tr>
<td>SDL29. I can be trusted to pursue my own learning</td>
<td>3.34</td>
<td>.550</td>
<td>SA</td>
</tr>
<tr>
<td>SDL5. I am able to focus on a problem</td>
<td>3.33</td>
<td>.561</td>
<td>SA</td>
</tr>
<tr>
<td>SDL25. I like to gather facts before I make a decision</td>
<td>3.33</td>
<td>.505</td>
<td>SA</td>
</tr>
<tr>
<td>SDL19. I have a need to learn</td>
<td>3.31</td>
<td>.572</td>
<td>SA</td>
</tr>
<tr>
<td>SDL12. I like to evaluate what I do</td>
<td>3.30</td>
<td>.579</td>
<td>SA</td>
</tr>
<tr>
<td>SDL20. I enjoy a challenge</td>
<td>3.30</td>
<td>.557</td>
<td>SA</td>
</tr>
<tr>
<td>SDL16. I am aware of my own limitations</td>
<td>3.26</td>
<td>.540</td>
<td>SA</td>
</tr>
<tr>
<td>SDL1. I solve problems using a plan</td>
<td>3.22</td>
<td>.557</td>
<td>A</td>
</tr>
<tr>
<td>SDL32. I prefer to set my own learning goals</td>
<td>3.21</td>
<td>.553</td>
<td>A</td>
</tr>
<tr>
<td>SDL3. I have good management skills</td>
<td>3.17</td>
<td>.548</td>
<td>A</td>
</tr>
<tr>
<td>SDL7. I critically evaluate new ideas</td>
<td>3.12</td>
<td>.593</td>
<td>A</td>
</tr>
<tr>
<td>SDL26. I evaluate my own learning</td>
<td>3.09</td>
<td>.510</td>
<td>A</td>
</tr>
<tr>
<td>SDL4. I prefer to plan my own learning</td>
<td>3.03</td>
<td>.616</td>
<td>A</td>
</tr>
<tr>
<td>SDL2. I manage my time well</td>
<td>3.00</td>
<td>.608</td>
<td>A</td>
</tr>
<tr>
<td>SDL24. I am self-disciplined</td>
<td>3.00</td>
<td>.611</td>
<td>A</td>
</tr>
<tr>
<td>SDL18. I enjoy studying</td>
<td>2.92</td>
<td>.700</td>
<td>A</td>
</tr>
<tr>
<td>SDL27. I prefer to set my own criteria on which to evaluate my learning</td>
<td>2.92</td>
<td>.594</td>
<td>A</td>
</tr>
<tr>
<td>SDL23. I set specific times for my study</td>
<td>2.57</td>
<td>.647</td>
<td>A</td>
</tr>
</tbody>
</table>

Note: N = 277. Missing values replaced with variable mean

*Response scale: 1 = strongly disagree (SD), 2 = disagree (D), 3 = agree (A), and 4 = strongly agree (SA)*

*Interpretive scale: 1 – 1.75= SD, 1.76 – 2.50= D, 2.51 – 3.25= A, and 3.26 – 4.00= SA*
Factor analysis procedures were used to investigate the underlying correlation structure of the variables in this scale. Several tests were undertaken to examine whether the data was factorable. A visual inspection of the correlation matrix showed that a substantial number of correlations were greater than 0.30. The Bartlett’s Test of Sphericity was found to be acceptable (3534.08; df= 496; p < .001). Finally, Kaiser-Meyer-Olkin (KMO) Measure of Sampling Adequacy test returned an acceptable score of 0.905. The data was thus deemed factorable.

Common Factor Analysis with Principal Axis Factoring extraction was undertaken on the data. Promax (Oblique) rotation with Kaiser Normalization was undertaken to obtain a simpler, more interpretable factor structure. In determining the number of underlying factors to be extracted the researcher considered the Kaiser Criteria (factors with an eigenvalue greater than 1), percentage of variance criterion (percentage of total variance extracted by successive factors > 5%), and the Cattell Scree plot examination. Factor loadings greater than +/- 0.30 met the minimum criteria to be considered for interpretation. In addition to using the above guidelines in determining the factors to extract, the simplicity, practicality and interpretability of the factors affected the final factor solution that this researcher reached for the Self-Directed Learning Readiness Scale.

The initial factor analysis yielded four factors with eigenvalues greater than 1.0 which explained 40.61% of the total variance. An examination of the scree plot indicated at least five factors, with a substantial drop in the first factor followed by small drops in the remaining four factors. Since only four factors met the eigenvalue criterion, and there was a very small drop between the third and fourth factor in the scree plot, this was deemed a four factor solution. However, an examination of the factor matrix indicated that all items loaded strongly on Factor One with item loadings ranging from .36 to .69. The items that loaded on Factor Two, Factor Three and Factor Four were all cross-loading on Factor One, with the stronger numerical values loading on Factor One. This tends to indicate the presence of one strong factor, an observation
supported by the substantial drop in the first factor on the scree plot. Furthermore, only the First Factor met the percentage of variance criterion (percentage of total variance extracted by successive factors > 5%).

An assessment of a forced Three-Factor solution and a Two-Factor solution yielded the same conclusion. The Three-Factor solution explained 37.139% of the total variance. The scree plot indicated a substantial drop in the First Factor followed by small drops in the subsequent three factors. The factor matrix revealed that all items loaded strongly on Factor One with item loadings ranging from .36 to .69. Only the First Factor met the percentage of variance criterion (percentage of total variance extracted by successive factors > 5%). The Two-Factor solution explained 33.24% of the total variance with a similar pattern in item loading.

After comparing the Four-Factor through the Two-Factor models, it was the interpretation of the researcher that the analysis suggested the presence of one strong factor. The factor was labeled “general self-directed learning characteristics” which includes all 32 items used to assess characteristics associated with self-directed learning readiness. Table 15 shows the eigenvalues, factor loadings and variance explained for the 32 items on the Four-Factor rotated solution for the Self-Directed Learning Readiness part of the survey which illustrates the loading on one factor (Factor One).

<table>
<thead>
<tr>
<th>Item Number</th>
<th>Factor 1</th>
<th>Factor 2</th>
<th>Factor 3</th>
<th>Factor 4</th>
</tr>
</thead>
<tbody>
<tr>
<td>SDL1</td>
<td>.358</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>SDL2</td>
<td>.398</td>
<td>.377</td>
<td></td>
<td>.324</td>
</tr>
<tr>
<td>SDL3</td>
<td>.423</td>
<td>.361</td>
<td></td>
<td></td>
</tr>
<tr>
<td>SDL4</td>
<td>.413</td>
<td></td>
<td></td>
<td>.371</td>
</tr>
<tr>
<td>SDL5</td>
<td>.625</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>SDL6</td>
<td>.417</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>SDL7</td>
<td>.412</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

(Table Continued)
| SDL  | .507  |
| SDL9 | .481  | -.337 |
| SDL10| .414  | -.361 |
| SDL11| .569  |
| SDL12| .598  |
| SDL13| .635  |
| SDL14| .605  |
| SDL15| .523  |
| SDL16| .403  |
| SDL17| .570  |
| SDL18| .521  | -.355 |
| SDL19| .606  | -.409 |
| SDL20| .613  |
| SDL21| .688  | -.462 |
| SDL22| .662  | -.464 |
| SDL23| .410  | .370  |
| SDL24| .507  | .337  |
| SDL25| .559  |
| SDL26| .624  |
| SDL27| .377  | .364  |
| SDL28| .636  |
| SDL29| .677  |
| SDL30| .599  |
| SDL31| .561  | -.349 |
| SDL32| .573  |

| Eigenvalues | 9.3 | 1.45 | 1.22 | 1.028 |
| Variance Explained | 29.06% | 4.52% | 3.82% | 3.21% |

*Note: Cross-loadings less than .30 are not listed in this table.*

**Figure 1:** Self-Directed Learning Readiness Four-Factor Solution Scree Plot
The factor comprised all the 32 items which assess self-directed learning readiness characteristics. A calculation of Cronbach’s alpha measure of internal consistency for the 32-item Self-Directed Learning Readiness part of the survey returned a high reliability score (\( \alpha = .923 \)). The overall item mean score for the factor was 3.28 (SD = .31) with the item means ranging from 2.55 to 3.67. This factor’s overall rating fell in the “strongly agree” category on the interpretive scale. The item with the highest mean value in this factor was SDL 11 “I am responsible” (M = 3.63, SD = .48) which fell in the “strongly agree” category on the interpretive scale. The item with the lowest mean value was SDL 23 “I set specific times for my study” (M = 2.54, SD = .63) which fell in the “agree” category on the interpretive scale.

**Readiness to Respond to Triggers for Learning**

Respondents were presented with a list of circumstances likely to occur in an adult’s life which may trigger participation in learning activities and were directed to rate the extent to which they would seek and participate in learning activities if the listed events were to occur in their lives. Each item measures the likelihood a respondent would participate in a learning activity when faced by each listed circumstance on a five-point Likert-type scale: 1= very unlikely, 2= unlikely, 3= likely, 4= very likely and 5= not applicable. However, there were some challenges in interpreting the “not applicable” score/selection. Coding the “not applicable” choice as a five would erroneously rank the likelihood that a respondent would participate in a learning activity as being higher than “very likely” on a circumstance which may not be applicable to the respondent. Also, the meaning of “not applicable” in any given circumstance is open to many interpretations. For instance, a selection of “not applicable” may mean that the circumstance presented is itself not applicable to that individual or it may also mean that participation in learning in the event that such a circumstance occurs is not applicable. For majority of the items, less than 10 percent selected the “not applicable” response. In a total of
nineteen of the twenty-eight items in this section, only five percent or fewer respondents selected
the “not applicable” response. The researcher thus decided to treat all “not applicable” responses
as missing data. The final response scale used in the analysis was therefore a four-point Likert-
type scale: 1= very unlikely, 2= unlikely, 3= likely and 4= very likely. The following scale was
created by the researcher to aid in the interpretation of the responses: 1 – 1.75= very unlikely,
1.76 – 2.50= unlikely, 2.51 – 3.25= likely and 3.26 – 4.00= very likely.

First, the means and standard deviations of the responses to each item in the Readiness to
Respond to Triggers for Learning Scale (RRT) were calculated. Table 16 below illustrates the
mean scores and standard deviation for each item in the part of the scale representing the
Readiness to Respond to Triggers for Learning (RRT) items.

Table 16
Description of the Likelihood that Adult Volunteers Affiliated with the 4-H Youth Development
Program in the Southern Region of the United States Would Seek and Participate in Learning
when Faced with Triggers for Learning

<table>
<thead>
<tr>
<th>Readiness to Respond to Triggers for Learning Items</th>
<th>M</th>
<th>SD</th>
<th>Category</th>
</tr>
</thead>
<tbody>
<tr>
<td>RRT2. Major changes at work e.g. new equipment,</td>
<td>3.59</td>
<td>.713</td>
<td>VL</td>
</tr>
<tr>
<td>new regulations</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>RRT3. Getting a new major responsibility at work</td>
<td>3.56</td>
<td>.697</td>
<td>VL</td>
</tr>
<tr>
<td>RRT5. Dealing with a major conflict with a close</td>
<td>3.54</td>
<td>.614</td>
<td>VL</td>
</tr>
<tr>
<td>family member</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>RRT13. Helping teenagers (children or siblings)</td>
<td>3.62</td>
<td>.642</td>
<td>VL</td>
</tr>
<tr>
<td>become responsible adults</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>RRT12. Need to help children/siblings go through</td>
<td>3.48</td>
<td>.759</td>
<td>VL</td>
</tr>
<tr>
<td>School</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>RRT20. Need to maintain good health</td>
<td>3.41</td>
<td>.672</td>
<td>VL</td>
</tr>
<tr>
<td>RRT4. Seeing work colleagues get ahead in their</td>
<td>3.40</td>
<td>.815</td>
<td>VL</td>
</tr>
<tr>
<td>Careers</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>RRT14. A high price expenditure decision e.g.</td>
<td>3.31</td>
<td>.912</td>
<td>VL</td>
</tr>
<tr>
<td>buying a house, car, or equipment</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>RRT28. Changes in information technology e.g.</td>
<td>3.27</td>
<td>.738</td>
<td>VL</td>
</tr>
<tr>
<td>computer programs</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>RRT17. Rising cost of living</td>
<td>3.24</td>
<td>.736</td>
<td>L</td>
</tr>
<tr>
<td>RRT1. Moving into a new job</td>
<td>3.23</td>
<td>.987</td>
<td>L</td>
</tr>
<tr>
<td>RRT27. Loss of spouse or close family members</td>
<td>3.20</td>
<td>.777</td>
<td>L</td>
</tr>
<tr>
<td>RRT6. Getting a promotion at work</td>
<td>3.15</td>
<td>.688</td>
<td>L</td>
</tr>
</tbody>
</table>

(Table Continued)
From the table above, the item that respondents expressed the highest likelihood of seeking and participating in learning activities was “Helping teenagers (children or sibling) become responsible adults” with a mean 3.62 (SD= 0.64). The item that received the second highest expression of likelihood that respondents would seek and participate in learning activities was “Major changes at work e.g. new equipment, new regulations” with a mean of 3.59 (SD= 0.70). Using the interpretive scale, both were in the “very likely” range. The item that respondents ranked as least likely to lead to participation in learning activities was “Dealing with a specific immediate task at work” with a mean of 2.27 (SD= 1.06). The item with the second lowest expression of likelihood was “Getting a divorce” with a mean of 2.34 (SD= 1.12). The response to both items fell within the “unlikely” range. Overall, the response to most items (17 items) fell within the “likely” range on the interpretive scale.
Several tests were undertaken to examine whether the data was suitable for factor analysis. A visual inspection of the correlation matrix showed that a substantial number of correlations were greater than 0.30. The Bartlett’s Test of Sphericity was found to be acceptable (3329.92; df= 378; p < .001). Finally, Kaiser-Meyer-Olkin (KMO) Measure of Sampling Adequacy test returned an acceptable score of 0.917. The data was thus deemed factorable. Common Factor Analysis with Principal Axis Factoring extraction was undertaken on the data. Promax (Oblique) rotation with Kaiser Normalization was undertaken to obtain a simpler, more interpretable factor structure. In determining the number of underlying factors to be extracted the researcher considered the Kaiser Criteria (factors with an eigenvalue greater than 1), percentage of variance criterion (percentage of total variance extracted by successive factors > 5%), and the Cattell Scree plot examination. Factor loadings greater than +/- 0.30 met the minimum criteria to be considered for interpretation. In addition to using the above guidelines, the researcher considered the simplicity, practicality and interpretability of the factors in determining the final factors to extract.

After an initial exploratory factor analysis, a look at the scree plot and initial eigenvalues led to the consideration of a Three-Factor and Four-Factor solution. The Four-Factor solution explained 53.93% of the total variance. After an examination of both the factor pattern matrix and the factor structure matrix, fifteen items were determined to load on Factor One with values ranging from .337 to .880. Factor Two loaded with 5 items with numerical loading values ranging from .386 to .788. Factor Three loaded with 4 items with values ranging from .649 to .773. The Fourth Factor loaded 2 items with numerical loading values of .820 and .834. One item, “Getting a new baby through childbirth or adoption”, appeared to cross-load on Factor One (.357) and Factor Two (.386). All the four factors met the Kaiser Criteria (factors with an eigenvalue greater than 1). Three factors satisfied the percentage of variance criterion
(percentage of total variance extracted by successive factors > 5%). The Fourth Factor failed to meet the percentage of variance criterion (3.8% of total variance) and only 2 items loaded on it. The factors appeared impractical and were not amenable to easy interpretation. The Four Factor solution was therefore rejected and a Three Factor Solution examined.

The Three-Factor solution yielded a model that explained 49.79% of the total variance. After an examination of both the factor pattern matrix and the factor structure matrix, 14 items appeared to load on Factor One with numerical loading values ranging from .332 to .874. Eight items loaded on Factor Two with values ranging from .359 to .739. Factor Three loaded 4 items with numerical loading values ranging from .671 to .775. There were two items which cross-loaded on two factors. The item “Getting a new baby through childbirth or adoption” did cross-load on Factor One (.368) and Factor Two (.466). The item was determined by the researcher as conceptually belonging to Factor One. The second item to cross-load was “Need to improve relationships with close family members” on Factor One (.493) and Factor Two (.359). The item was determined by the researcher as conceptually belonging to Factor Two. All the three factors met the Kaiser Criteria (factors with an eigenvalue greater than 1) and the percentage of variance criterion (percentage of total variance extracted by successive factors > 5%). This model also better met the criteria for being a simple interpretable structure. The model was thus determined to best represent the responses to the Readiness to Respond to Triggers for Learning Scale. Factor One which was labeled “primary changes” had 15 items. Factor Two was composed of 9 items and was labeled “secondary changes”. Factor Three was labeled “work changes” and had 4 items. Table 17 shows the eigenvalues, factor loadings and variance explained for the 28 items on the Three-Factor rotated solution for the Readiness to Respond to Triggers for Learning part of the survey. Below the table is a scree plot figure used to arrive at a Three-Factor rotated solution.
Table 17
Factor Loading, Eigenvalues, and Variance for Items Representing Readiness to Respond to Triggers for Learning for a Rotated Three-Factor Solution

<table>
<thead>
<tr>
<th>Item Number</th>
<th>Factor 1</th>
<th>Factor 2</th>
<th>Factor 3</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Primary Changes</td>
<td>Secondary Changes</td>
<td>Work Changes</td>
</tr>
<tr>
<td>RRT 24</td>
<td>.874</td>
<td></td>
<td></td>
</tr>
<tr>
<td>RRT 8</td>
<td>.870</td>
<td></td>
<td></td>
</tr>
<tr>
<td>RRT 7</td>
<td>.861</td>
<td></td>
<td></td>
</tr>
<tr>
<td>RRT 21</td>
<td>.815</td>
<td></td>
<td></td>
</tr>
<tr>
<td>RRT 18</td>
<td>.770</td>
<td></td>
<td></td>
</tr>
<tr>
<td>RRT 22</td>
<td>.731</td>
<td></td>
<td></td>
</tr>
<tr>
<td>RRT 11</td>
<td>.661</td>
<td></td>
<td></td>
</tr>
<tr>
<td>RRT 15</td>
<td>.656</td>
<td></td>
<td></td>
</tr>
<tr>
<td>RRT 19</td>
<td>.650</td>
<td></td>
<td></td>
</tr>
<tr>
<td>RRT 25</td>
<td>.612</td>
<td></td>
<td></td>
</tr>
<tr>
<td>RRT 26</td>
<td>.601</td>
<td></td>
<td></td>
</tr>
<tr>
<td>RRT 23</td>
<td>.576</td>
<td></td>
<td></td>
</tr>
<tr>
<td>RRT 14</td>
<td>.468</td>
<td></td>
<td></td>
</tr>
<tr>
<td>RRT 9</td>
<td>.368</td>
<td>.466</td>
<td></td>
</tr>
<tr>
<td>RRT 16</td>
<td>.332</td>
<td></td>
<td></td>
</tr>
<tr>
<td>RRT 17</td>
<td></td>
<td>.739</td>
<td></td>
</tr>
<tr>
<td>RRT 20</td>
<td></td>
<td>.671</td>
<td></td>
</tr>
<tr>
<td>RRT 13</td>
<td></td>
<td>.649</td>
<td></td>
</tr>
<tr>
<td>RRT 12</td>
<td></td>
<td>.536</td>
<td></td>
</tr>
<tr>
<td>RRT 5</td>
<td></td>
<td>.526</td>
<td></td>
</tr>
<tr>
<td>RRT 27</td>
<td></td>
<td>.450</td>
<td></td>
</tr>
<tr>
<td>RRT 28</td>
<td></td>
<td>.428</td>
<td></td>
</tr>
<tr>
<td>RRT 6</td>
<td></td>
<td>.368</td>
<td></td>
</tr>
<tr>
<td>RRT 10</td>
<td>.493</td>
<td>.359</td>
<td>.775</td>
</tr>
<tr>
<td>RRT 3</td>
<td></td>
<td></td>
<td>.747</td>
</tr>
<tr>
<td>RRT 2</td>
<td></td>
<td></td>
<td>.693</td>
</tr>
<tr>
<td>RRT 4</td>
<td></td>
<td></td>
<td>.671</td>
</tr>
</tbody>
</table>

| Eigenvalues | 9.99 | 2.57 | 1.38 |
| Variance Explained | 35.69% | 9.18% | 4.93% |

Note: Cross-loadings less than .30 are not listed in this table.
Figure 2: Readiness to Respond to Triggers for Learning Three-Factor Solution Scree Plot

Factor One labeled “primary changes” had 15 items assessing the likelihood that volunteers would participate in learning to address what can be classified as major changes in life circumstances. These are mostly one-time challenges or changes in life circumstances which cannot be classified as everyday occurrences which nonetheless affect one’s life flow and have to be attended to. A calculation of Cronbach’s alpha measure of internal consistency for the 15 items comprising Factor One returned a high reliability score (α = .946). The overall item mean score for the factor was 2.81 (SD = 1.01) with the item means ranging from 2.32 to 3.28. This factor’s overall rating fell in the “likely” category on the interpretive scale. The item with the highest mean value in this factor was RRT 14 “A high price expenditure decision e.g. buying a house, car, equipment” (M = 3.27, SD = .91). The item with the lowest mean value was RRT 7 “Dealing with a specific immediate task at work” (M = 2.32, SD = 1.67).

The second factor labeled “secondary changes” had 9 items which assessed the likelihood that volunteers would participate in learning to address what can be classified as everyday life challenges or life maintenance challenges. Cronbach alpha measure of internal consistency was calculated for the 9 items comprising Factor Two which returned a high reliability score (α =
The overall item mean score for the factor was 3.31 (SD = .55) with the item means ranging from 2.98 to 3.61. This factor’s overall rating fell in the “very likely” category on the interpretive scale. The item with the highest mean value in this factor was RRT 20 “Need to maintain good health” (M = 3.39, SD = .67). The item with the lowest mean value was RRT 10 “Need to improve relations with close family members” (M = 2.98, SD = .84).

The third factor labeled “work changes” had 4 items which addressed the likelihood adults undertook learning activities to address work-related changes. A calculation of Cronbach’s alpha measure of internal consistency for the 4 items comprising Factor Three returned a high reliability score (α = .872). The overall item mean score for the factor was 3.47 (SD = .70) with the item means ranging from 3.28 to 3.60. This factor’s overall rating fell in the “very likely” category on the interpretive scale. The item with the highest mean value in this factor was RRT 2 “Major changes at work e.g. new equipment, new regulations” (M = 3.60, SD = .74). The item with the lowest mean value was RRT 1 “Moving into a new job” (M = 3.28, SD = .99).

**Readiness to Overcome Deterrents to Participation in Learning**

The items in this section of the survey assessed the readiness of respondents to overcome some deterrents to participation in learning. Respondents were directed to rate the extent to which each item measured a characteristic of themselves on a four-point Likert-type scale: 1= strongly disagree, 2= disagree, 3= agree, and 4= strongly agree. The following scale was created by the researcher to aid in the interpretation of the responses: 1 – 1.75= strongly disagree, 1.76 – 2.50= disagree, 2.51 – 3.25= agree, and 3.26 – 4.00= strongly agree.

The mean and standard deviation of the responses to each item in the Readiness to Overcome Deterrents to Participation (ROD) part of the survey was calculated. The item that received the highest level of agreement from respondents was “I can learn regardless of my age” with a mean 3.54 (SD= 0.51). The item that received the second highest level of agreement from
respondents was “Age cannot keep me from learning what I need to learn” with a mean of 3.53 (SD= 0.51). Using the interpretive scale, both were in the “strongly agree” range. The item with the lowest level of agreement was “Costs cannot keep me from learning what I need to learn” with a mean of 2.73 (SD= 0.76). The item with the second lowest level of agreement was “I always find ways to cover the costs for the learning I need” with a mean of 2.94 (SD= 0.63). The response to both items fell within the “agree” range. Overall, almost half of the responses (8 items) fell within the “agree” range on the interpretive scale, while the rest (7 items) fell within the strongly agree range. Table 18 below illustrates the mean score and standard deviation for each item representing respondent’s level of agreement with their readiness to overcome deterrents (ROD) to participation in learning.

Table 18
Description of the Level of Agreement of Adult Volunteers Affiliated with the 4-H Youth Development Program in the Southern Region of the United States with Statements Reflecting the Readiness to Overcome Deterrents to Participation in Learning

<table>
<thead>
<tr>
<th>Readiness to Overcome Deterrents Items</th>
<th>M</th>
<th>SD</th>
<th>Category</th>
</tr>
</thead>
<tbody>
<tr>
<td>ROD10. I can learn regardless of my age</td>
<td>3.54</td>
<td>.512</td>
<td>SA</td>
</tr>
<tr>
<td>ROD11. Age cannot keep me from learning what I need to learn</td>
<td>3.53</td>
<td>.511</td>
<td>SA</td>
</tr>
<tr>
<td>ROD14. I can use technology to access a variety of learning activities</td>
<td>3.41</td>
<td>.559</td>
<td>SA</td>
</tr>
<tr>
<td>ROD13. I am confident in my ability to search for information online</td>
<td>3.40</td>
<td>.581</td>
<td>SA</td>
</tr>
<tr>
<td>ROD9. I am confident of my learning ability</td>
<td>3.39</td>
<td>.542</td>
<td>SA</td>
</tr>
<tr>
<td>ROD15. I am confident in my ability to use technology in learning</td>
<td>3.34</td>
<td>.615</td>
<td>SA</td>
</tr>
<tr>
<td>ROD12. I do what it takes to get ready to learn what I need to learn</td>
<td>3.29</td>
<td>.547</td>
<td>SA</td>
</tr>
<tr>
<td>ROD2. I am capable of finding good quality learning Activities</td>
<td>3.18</td>
<td>.519</td>
<td>A</td>
</tr>
<tr>
<td>ROD3. I search until I find learning activities that fit my schedule</td>
<td>3.16</td>
<td>.544</td>
<td>A</td>
</tr>
<tr>
<td>ROD1. I search until I find learning activities that meet my learning needs</td>
<td>3.12</td>
<td>.539</td>
<td>A</td>
</tr>
<tr>
<td>ROD6. I always find a cost effective way to learn what I need to learn</td>
<td>3.03</td>
<td>.541</td>
<td>A</td>
</tr>
</tbody>
</table>

(Table continued)
Several tests determined that the data was factorable. A visual inspection of the correlation matrix showed that a substantial number of correlations were greater than 0.30. The Bartlett’s Test of Sphericity was found to be acceptable (2431.66; df= 105; p < .001). Finally, Kaiser-Meyer-Olkin (KMO) Measure of Sampling Adequacy test returned an acceptable score of 0.855. Common Factor Analysis with Principal Axis Factoring extraction was undertaken on the data. Promax (Oblique) rotation with Kaiser Normalization was undertaken to obtain a simpler, more interpretable factor structure. In determining the number of underlying factors to be extracted the researcher considered the Kaiser Criteria (factors with an eigenvalue greater than 1), percentage of variance criterion (percentage of total variance extracted by successive factors > 5%), and the Cattell Scree plot examination. Factor loadings greater than +/- 0.30 met the minimum criteria to be considered for interpretation. In addition to using the above guidelines in determining the factors to extract, the simplicity, practicality and interpretability of the factors affected the final factor solution that this researcher arrived at.

An exploratory factor analysis procedure performed on this data revealed a Four-Factor solution which explained 63.27% of the total variance. An examination of the scree plot indicated a flattening after the Fourth Factor. All four factors met the percentage of variance criterion (percentage of total variance extracted by successive factors > 5%). At least the first three factors met the Kaiser Criteria (factors with an eigenvalue greater than 1). The fourth factor
which had an eigenvalue of .77 (less than 1.0) was included in the factor solution since it explained more than 5% (percentage of variance criterion), and the scree plot clearly showed four factors. An examination of the factor matrix revealed some strong cross-loadings which presented a challenge in clearly delineating the items belonging to each factor and interpreting the factors. The factor pattern matrix was used to help better delineate, label and interpret the factors. When a factor pattern matrix is examined identified themes more obvious (Pett, Lackey, & Sullivan, 2003).

For the Four-Factor solution, a total of 5 items loaded on Factor One with numerical loading values ranging from .901 to .324. Four items loaded on Factor Two with numerical loading values ranging from .966 to .382. Factor Three had a total of 3 items load on it with numerical loading values ranging from .977 to .630. Three items loaded on Factor Four with numerical loading values ranging from .915 to .830. There was one item, “I am able to balance time between family and learning activities”, which cross-loaded on Factor One and Factor Three. The item was determined by the researcher as conceptually belonging to Factor One more than Factor Three. The Four Factor model was retained owing to its simple structure and interpretability. The four factors were labeled “programmatic issues”, “dispositional issues”, “cost issues”, and “learning technology issues”. Table 19 shows the eigenvalues, factor loadings and variance explained for the 16 items on the Four-Factor rotated solution for the Readiness to Overcome Deterrents to Participation in Learning part of the survey.

<table>
<thead>
<tr>
<th>Item Number</th>
<th>Factor 1 Programmatic</th>
<th>Factor 2 Dispositional</th>
<th>Factor 3 Cost</th>
<th>Factor 4 Learning Technology</th>
</tr>
</thead>
<tbody>
<tr>
<td>ROD1</td>
<td>.901</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>ROD2</td>
<td>.757</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>ROD3</td>
<td>.662</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

(Table Continued)
<table>
<thead>
<tr>
<th>ROD4</th>
<th>.462</th>
</tr>
</thead>
<tbody>
<tr>
<td>ROD5</td>
<td>.324</td>
</tr>
<tr>
<td>ROD11</td>
<td>.966</td>
</tr>
<tr>
<td>ROD10</td>
<td>.993</td>
</tr>
<tr>
<td>ROD9</td>
<td>.563</td>
</tr>
<tr>
<td>ROD12</td>
<td>.382</td>
</tr>
<tr>
<td>ROD7</td>
<td>.977</td>
</tr>
<tr>
<td>ROD8</td>
<td>.768</td>
</tr>
<tr>
<td>ROD6</td>
<td>.630</td>
</tr>
<tr>
<td>ROD14</td>
<td>.915</td>
</tr>
<tr>
<td>ROD15</td>
<td>.896</td>
</tr>
<tr>
<td>ROD13</td>
<td>.830</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Eigenvalues</th>
<th>6.02</th>
<th>1.66</th>
<th>1.04</th>
<th>.77</th>
</tr>
</thead>
<tbody>
<tr>
<td>Variance Explained</td>
<td>40.14%</td>
<td>11.06%</td>
<td>6.93%</td>
<td>5.13%</td>
</tr>
</tbody>
</table>

*Note: Cross-loadings less than .30 are not listed in this table.*

Figure 3: Readiness to Overcome Deterrents to Participation in Learning Four-Factor Solution

Scree Plot

Factor One which had a total of 5 items was labeled “programmatic issues” which addressed the ability to overcome deterrents related to finding learning activities that met one’s learning needs and convenience. Cronbach alpha measure of internal consistency was calculated for the 5 items comprising Factor One which returned a high reliability score ($\alpha = .808$). The overall item mean score for the factor was 3.084 (SD = .33) with the item means ranging from 2.981 to 3.175. This factor’s overall rating fell in the “agree” category on the interpretive scale.
The item with the highest mean value in this factor was ROD 2 “I am capable of finding good quality learning activities” (M = 3.18, SD = .52). The item with the lowest mean value was ROD 4 “I always make time to learn when I need to” (M = 2.98, SD = .67).

Factor Two labeled “dispositional issues” loaded 4 items addressing the ability to overcome deterrents related to self-perceptions and attitudes of learners regarding their ability to learn. A calculation of Cronbach’s alpha measure of internal consistency for the 4 items comprising Factor Two returned a high reliability score (α = .858). The overall item mean score for the factor was 3.439 (SD = .28) with the item means ranging from 3.305 to 3.538. This factor’s overall rating fell in the “strongly agree” category on the interpretive scale. The item with the highest mean value in this factor was ROD 10 “I can learn regardless of my age” (M = 3.54, SD = .51). The item with the lowest mean value was ROD 12 “I do what it takes to get ready to learn what I need to learn” (M = 3.30, SD = .54).

Factor Three labeled “cost issues” loaded 3 items addressed the ability to overcome cost deterrents to participation in learning. Cronbach alpha measure of internal consistency was calculated for the 3 items comprising Factor Three which returned a high reliability score (α = .809). The overall item mean score for the factor was 2.900 (SD = .43) with the item means ranging from 2.723 to 3.033. This factor’s overall rating fell in the “agree” category on the interpretive scale. The items had the following mean scores: ROD 6 “I always find a cost effective way to learn what I need to learn” had the highest item mean score of 3.03 (SD = .54); ROD 7 “I always find ways to cover the costs for the learning I need to learn” with a mean of2.94 (SD = .63); and ROD 8 “Costs cannot keep me from learning what I need to learn” had the lowest item mean (M = 2.72, SD = .77).

The fourth factor labeled “learning technology issues” loaded 3 items which addressed the volunteer’s ability to overcome deterrents related to using technology for learning. Cronbach
alpha measure of internal consistency was calculated for the 3 items comprising Factor Four which returned a high reliability score (\(\alpha = .936\)). The overall item mean score for the factor was 3.38 (SD = .35) with the item means ranging from 3.34 to 3.40. This factor’s overall rating fell in the “strongly agree” category on the interpretive scale. The items had the following mean scores: ROD 14 “I can use technology to access a variety of learning activities” had the highest item mean score of 3.40 (SD = .56); ROD 13 “I am confident in my ability to search for information online” with a mean of 3.39 (SD = .59); and ROD 15 “I am confident in my ability to use technology in learning” had the lowest item mean (M = 3.34, SD = .62).

**Overall Readiness for Lifelong Learning Score**

The overall readiness for lifelong learning score was obtained by summing the sub-scale scores from the three sections of the Readiness for Lifelong Learning Questionnaire. The item mean for the overall score (N = 277) was 3.198 and the standard deviation .312. An interpretive score was developed by the researcher to help interpret the overall readiness for lifelong learning score. Based on that interpretive scale, the mean fell within the “high readiness” category. The item mean for the overall score ranged from 2.51 (high readiness) to 3.95 (very high readiness).

The interpretive scale was:

- 1.00 – 1.75 = very low readiness
- 1.76 – 2.5 = low readiness
- 2.51 – 3.25 = high readiness
- 3.26 – 4.00 = very high readiness

A very high readiness for lifelong learning indicates that an adult is very likely to engage in lifelong learning or be a lifelong learner. The person identifies him/herself as being more likely to respond to circumstances known to trigger adult learning with participation in learning,
has self-directed learning characteristics, and is likely to overcome known deterrents to adult participation in learning. These when combined indicate a readiness to learn throughout life.

Objective Three

Objective three was to determine if differences exist in the readiness for lifelong learning as measured by the Readiness for Lifelong Learning Scale on selected demographic characteristics which include:

a) Gender
b) Ethnicity
c) Highest educational level completed
d) Yearly net income
e) Marital Status
f) Whether or not the volunteer has children living at home
g) Employment status
h) Current occupational Category
i) Whether or not volunteer’s current employment requires continuous certification

Gender

A comparison of the overall readiness for lifelong learning score between males and females was undertaken through calculation of one way analysis of variance (ANOVA). The mean item score for males was slightly lower than that for females (Table 20).

Table 20

<table>
<thead>
<tr>
<th>Gender</th>
<th>n</th>
<th>Item Mean M^a</th>
<th>SD</th>
</tr>
</thead>
<tbody>
<tr>
<td>Male</td>
<td>44</td>
<td>3.136</td>
<td>0.263</td>
</tr>
</tbody>
</table>

(Table Continued)
Female                                        230                           3.211                          0.320 
Total^b                                          274                           3.199                          0.313 

Note: Three respondents failed to respond to the gender item or provide data for calculation of the overall readiness for lifelong learning score on the questionnaire 
^a Interpretive scale: 1.00 – 1.75 = very low readiness; 1.76 – 2.5 = low readiness; 2.51 – 3.25 = high readiness; and 3.26 – 4.00 = very high readiness  
^b Reported as overall item mean and standard deviation

Results from Levene's Test of Homogeneity of Variance revealed the presence of equal variance between the different gender groups (F_{1, 272} = 2.532, p = .113). The differences in overall readiness for lifelong learning score between the gender groups were not statistically significant (F_{1, 272} = 2.117, p = .147). Table 21 illustrates the ANOVA results for differences in overall readiness for lifelong learning by gender.

Table 21  
One Way Analysis of Variance Illustrating Differences in Overall Readiness for Lifelong Learning by Gender for Volunteers Affiliated with a 4-H Youth Development Program in the Southern Region of the United States

<table>
<thead>
<tr>
<th></th>
<th>df</th>
<th>SS</th>
<th>MS</th>
<th>F^a</th>
<th>P^b</th>
</tr>
</thead>
<tbody>
<tr>
<td>Between Groups</td>
<td>1</td>
<td>0.206</td>
<td>0.206</td>
<td>2.117</td>
<td>.147</td>
</tr>
<tr>
<td>Within Groups</td>
<td>272</td>
<td>26.491</td>
<td>0.097</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>273</td>
<td>26.698</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

^a One Way Analysis of Variance  
^b .05 Alpha Level for the Two-Tailed Test of Significance

Ethnicity

Differences in overall lifelong learning readiness scores were also examined by ethnicity. The sample sizes, overall readiness for lifelong learning score item means and standard deviations reported by ethnicity are illustrated in Table 22.

Table 22  
Group Sizes, Overall Readiness for Lifelong Learning Item Mean Scores, and Standard Deviation by Ethnicity for Volunteers Affiliated with a 4-H Youth Development Program in the Southern Region of the United States

<table>
<thead>
<tr>
<th>Ethnicity</th>
<th>n</th>
<th>M^a</th>
<th>SD</th>
</tr>
</thead>
<tbody>
<tr>
<td>African American</td>
<td>28</td>
<td>3.260</td>
<td>.312</td>
</tr>
<tr>
<td>Asian</td>
<td>1</td>
<td>3.351</td>
<td>0</td>
</tr>
</tbody>
</table>

(Table Continued)
Caucasian 238 3.192 .316
Hispanic 1 3.541 0
Native American 1 3.280 0
Other 4 3.052 .193
Totalb 273 3.199 .313

Note: Four respondents failed to respond to the ethnicity item or provide data for calculation of the overall readiness for lifelong learning score on the questionnaire.

Interpretive scale: 1.00 – 1.75 = very low readiness; 1.76 – 2.5 = low readiness; 2.51 – 3.25 = high readiness; and 3.26 – 4.00 = very high readiness

b Reported as overall item mean and standard deviation

The findings illustrated in Table 23 indicate that there were no significant differences in the overall readiness for lifelong learning score within the reported ethnic groups (F5, 267 = .710, p = .616). The Levenes Test of Homogeneity of Variance revealed the presence of equal variance between the different ethnic groups (F2, 267 = .705, p = .495).

Table 23
One Way Analysis of Variance Illustrating Differences in Overall Readiness for Lifelong Learning by Ethnicity for Volunteers Affiliated with a 4-H Youth Development Program in the Southern Region of the United States

<table>
<thead>
<tr>
<th>df</th>
<th>SS</th>
<th>MS</th>
<th>Fa</th>
<th>Pb</th>
</tr>
</thead>
<tbody>
<tr>
<td>Between Groups</td>
<td>5  .350</td>
<td>.070</td>
<td>.710</td>
<td>.616</td>
</tr>
<tr>
<td>Within Groups</td>
<td>267 26.347</td>
<td>.099</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>272 26.698</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

a One Way Analysis of Variance
b .05 Alpha Level for the Two-Tailed Test of Significance

Highest Level of Education Completed

A comparison of the overall readiness for lifelong learning score by the respondents highest level of education completed was undertaken through calculation of one way analysis of variance (ANOVA). The Levenes Test of Homogeneity of Variance revealed the presence of equal variance between the different groups based on highest level of education completed (F8, 263 = 1.057, p = .394). The overall mean score and standard deviation for the various groups was calculated. The mean item score was highest for the “doctoral degree” category, the score for which fell in the “very high readiness” category in the interpretive scale (Table 24).
Table 24
Group Sizes, Overall Readiness for Lifelong Learning Item Mean Scores, and Standard Deviation by Highest Level of Education Completed for Volunteers Affiliated with a 4-H Youth Development Program in the Southern Region of the United States

<table>
<thead>
<tr>
<th>Highest Level of Education Completed</th>
<th>n</th>
<th>M</th>
<th>SD</th>
</tr>
</thead>
<tbody>
<tr>
<td>High School Diploma</td>
<td>14</td>
<td>3.172</td>
<td>.369</td>
</tr>
<tr>
<td>Some Vocational/Technical School</td>
<td>5</td>
<td>3.069</td>
<td>.311</td>
</tr>
<tr>
<td>Vocational/Technical School Degree</td>
<td>8</td>
<td>2.957</td>
<td>.218</td>
</tr>
<tr>
<td>Some College</td>
<td>26</td>
<td>3.166</td>
<td>.223</td>
</tr>
<tr>
<td>Associate Degree</td>
<td>13</td>
<td>3.177</td>
<td>.272</td>
</tr>
<tr>
<td>Bachelors Degree (BA/BS)</td>
<td>117</td>
<td>3.213</td>
<td>.335</td>
</tr>
<tr>
<td>Masters Degree (MA/MS/MBA)</td>
<td>82</td>
<td>3.219</td>
<td>.304</td>
</tr>
<tr>
<td>Professional Degree (JD/MD)</td>
<td>4</td>
<td>3.346</td>
<td>.281</td>
</tr>
<tr>
<td>Doctoral Degree (Ph.d/Ed.d)</td>
<td>3</td>
<td>3.448</td>
<td>.250</td>
</tr>
<tr>
<td>Total</td>
<td>272</td>
<td>3.200</td>
<td>.312</td>
</tr>
</tbody>
</table>

Note: Five respondents failed to respond to the highest level of education completed item or provide data for calculation of the overall readiness for lifelong learning score

a Interpretive scale: 1.00 – 1.75 = very low readiness; 1.76 – 2.5 = low readiness; 2.51 – 3.25 = high readiness; and 3.26 – 4.00 = very high readiness

b Reported as overall item mean and standard deviation

Although there were some differences in the overall readiness for lifelong learning score based on the highest level of education completed, none of the differences were statistically significant (Table 25).

Table 25
One Way Analysis of Variance Illustrating Differences in Overall Readiness for Lifelong Learning by the Highest Level of Education Completed for Volunteers Affiliated with a 4-H Youth Development Program in the Southern Region of the United States

<table>
<thead>
<tr>
<th></th>
<th>df</th>
<th>SS</th>
<th>MS</th>
<th>F</th>
<th>P</th>
</tr>
</thead>
<tbody>
<tr>
<td>Between Groups</td>
<td>8</td>
<td>.925</td>
<td>.116</td>
<td>1.193</td>
<td>.303</td>
</tr>
<tr>
<td>Within Groups</td>
<td>263</td>
<td>25.483</td>
<td>.097</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>271</td>
<td>26.408</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

a One Way Analysis of Variance

b .05 Alpha Level for the Two-Tailed Test of Significance

Yearly Net Income

Differences in overall lifelong learning readiness scores were also examined by the reported yearly net income. The yearly net income category with the highest mean item score
(M = 3.26) was the “$50,000 - $75,000” category, which is categorized as “very high readiness” in the interpretive scale. The sample sizes, overall readiness for lifelong learning score item means and standard deviations reported by yearly net income are illustrated in Table 26.

Table 26
Group Sizes, Overall Readiness for Lifelong Learning Item Mean Scores, and Standard Deviation by Yearly Net Income for Volunteers Affiliated with a 4-H Youth Development Program in the Southern Region of the United States

<table>
<thead>
<tr>
<th>Yearly Net Income</th>
<th>n</th>
<th>M</th>
<th>SD</th>
</tr>
</thead>
<tbody>
<tr>
<td>Less than 25,000</td>
<td>28</td>
<td>3.104</td>
<td>.307</td>
</tr>
<tr>
<td>25,001-50,000</td>
<td>107</td>
<td>3.227</td>
<td>.333</td>
</tr>
<tr>
<td>50,001-75,000</td>
<td>70</td>
<td>3.264</td>
<td>.333</td>
</tr>
<tr>
<td>75,001-100,000</td>
<td>35</td>
<td>3.216</td>
<td>.219</td>
</tr>
<tr>
<td>Greater than 100,000</td>
<td>19</td>
<td>3.019</td>
<td>.216</td>
</tr>
<tr>
<td>Total</td>
<td>259</td>
<td>3.207</td>
<td>.315</td>
</tr>
</tbody>
</table>

Note: Eighteen respondents failed to respond to the yearly net income item or provide data for calculation of the overall readiness for lifelong learning score on the questionnaire.

The Levene’s Test of Homogeneity of Variance revealed a violation of the assumption of equal variances among the groups (F_4,254 = 3.858, p = .005). A calculation of the Welch Statistic which accounts for the lack of homogeneity of variance revealed statistically significant differences in the overall readiness for lifelong learning score based on yearly net income (4.742; 4, 78.297; p = .002). The Tukey’s post hoc analysis used to locate the significant differences between means revealed significant differences in the overall readiness for lifelong learning score between those reporting more than $100,000 yearly net income and those reporting a yearly net income of between $50,001 and $75,000 (mean difference = .25).

Marital Status

A comparison of the overall readiness for lifelong learning score by the respondents reported marital status was also undertaken. The mean item score was highest for the “divorced”
category, the score for which fell in the “very high readiness” category in the interpretive scale (Table 27).

Table 27
Group Sizes, Overall Readiness for Lifelong Learning Item Mean Scores, and Standard Deviation by Marital Status for Volunteers Affiliated with a 4-H Youth Development Program in the Southern Region of the United States

<table>
<thead>
<tr>
<th>Marital Status</th>
<th>n</th>
<th>M^a</th>
<th>SD</th>
</tr>
</thead>
<tbody>
<tr>
<td>Single Never Married</td>
<td>26</td>
<td>3.074</td>
<td>.345</td>
</tr>
<tr>
<td>Married</td>
<td>214</td>
<td>3.194</td>
<td>.308</td>
</tr>
<tr>
<td>Separated</td>
<td>2</td>
<td>3.517</td>
<td>.241</td>
</tr>
<tr>
<td>Divorced</td>
<td>20</td>
<td>3.346</td>
<td>.295</td>
</tr>
<tr>
<td>Widowed</td>
<td>8</td>
<td>3.270</td>
<td>.280</td>
</tr>
<tr>
<td>Total^b</td>
<td>270</td>
<td>3.198</td>
<td>.314</td>
</tr>
</tbody>
</table>

Note: Seven respondents failed to respond to the marital status item or provide data for calculation of the overall readiness for lifelong learning score on the questionnaire

^a Interpretive scale: 1.00 – 1.75 = very low readiness; 1.76 – 2.5 = low readiness; 2.51 – 3.25 = high readiness; and 3.26 – 4.00 = very high readiness

^b Reported as overall item mean and standard deviation

The findings illustrated in Table 28 indicate that there were significant differences in the overall readiness for lifelong learning score within the groups based on marital status (F(4, 265) = 2.819, p = .026). The Levene’s Test of Homogeneity of Variance revealed the presence of equal variance between the different groups based on marital status (F(4, 265) = .424, p = .792).

Table 28
One Way Analysis of Variance Illustrating Differences in Overall Readiness for Lifelong Learning by Marital Status for Volunteers Affiliated with a 4-H Youth Development Program in the Southern Region of the United States

<table>
<thead>
<tr>
<th></th>
<th>df</th>
<th>SS</th>
<th>MS</th>
<th>F^a</th>
<th>P^b</th>
</tr>
</thead>
<tbody>
<tr>
<td>Between Groups</td>
<td>4</td>
<td>1.084</td>
<td>.271</td>
<td>2.819</td>
<td>.026</td>
</tr>
<tr>
<td>Within Groups</td>
<td>265</td>
<td>25.487</td>
<td>.096</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>269</td>
<td>26.571</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

^a One Way Analysis of Variance

^b .05 Alpha Level for the Two-Tailed Test of Significance

The Tukey’s post hoc analysis used to pin-point the significant differences between means revealed significant differences in the overall readiness for lifelong learning score...
between those who reported being “single/never married” and those who reported being “divorced” (mean difference = -.27).

**Presence of Children at Home**

Respondents were also asked if they had any children at home. An examination of the differences in the overall readiness for lifelong learning score based on the respondents report on the presence or absence of children at home was undertaken. Results from Levene’s Test of Homogeneity of Variance revealed the presence of equal variance between the two groups ($F_{1,269} = .092, p = .762$). Those with children at home had a slightly higher readiness for lifelong learning item mean score (See Table 29).

<table>
<thead>
<tr>
<th>Item Mean</th>
</tr>
</thead>
<tbody>
<tr>
<td>Presence of Children at Home</td>
</tr>
<tr>
<td>M a</td>
</tr>
<tr>
<td>3.208</td>
</tr>
<tr>
<td>Absence of Children at Home</td>
</tr>
<tr>
<td>M a</td>
</tr>
<tr>
<td>3.169</td>
</tr>
<tr>
<td>Total b</td>
</tr>
<tr>
<td>M a</td>
</tr>
<tr>
<td>3.196</td>
</tr>
</tbody>
</table>

Note: Six respondents failed to respond to the presence of children at home item or provide data for calculation of the overall readiness for lifelong learning score on the questionnaire.

Interpretive scale: 1.00 – 1.75 = very low readiness; 1.76 – 2.5 = low readiness; 2.51 – 3.25 = high readiness; and 3.26 – 4.00 = very high readiness.

Below, Table 30 shows that the differences in overall readiness for lifelong learning score between those with children at home and those without were not statistically significant ($F_{1,269} = .886, p = .347$).

<table>
<thead>
<tr>
<th>df</th>
<th>SS</th>
<th>MS</th>
<th>F a</th>
<th>P b</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>.086</td>
<td>.086</td>
<td>.886</td>
<td>.347</td>
</tr>
</tbody>
</table>

(Table Continued)
Differences in overall lifelong learning readiness scores were also examined by respondents reported current employment status. The group reporting the highest overall readiness for lifelong learning mean item score (M = 3.326) which was categorized as “very high readiness” on the interpretive scale was the group “employed on a contract basis”. The sample sizes, overall readiness for lifelong learning score item means and standard deviations reported by current employment status are illustrated in Table 31.

Table 31
Group Sizes, Overall Readiness for Lifelong Learning Item Mean Scores, and Standard Deviation by Employment Status for Volunteers Affiliated with a 4-H Youth Development Program in the Southern Region of the United States

<table>
<thead>
<tr>
<th>Employment Status</th>
<th>n</th>
<th>M</th>
<th>SD</th>
</tr>
</thead>
<tbody>
<tr>
<td>Unemployed</td>
<td>10</td>
<td>3.189</td>
<td>.272</td>
</tr>
<tr>
<td>Employed Full Time</td>
<td>226</td>
<td>3.216</td>
<td>.317</td>
</tr>
<tr>
<td>Employed on a Contract Basis</td>
<td>9</td>
<td>3.236</td>
<td>.346</td>
</tr>
<tr>
<td>Employed Part Time</td>
<td>17</td>
<td>3.003</td>
<td>.248</td>
</tr>
<tr>
<td>Retired</td>
<td>12</td>
<td>3.161</td>
<td>.264</td>
</tr>
<tr>
<td><strong>Totalb</strong></td>
<td>274</td>
<td>3.199</td>
<td>.313</td>
</tr>
</tbody>
</table>

*Note:* Three respondents failed to respond to the current employment status item or provide data for calculation of the overall readiness for lifelong learning score on the questionnaire

*Interpretive scale: 1.00 – 1.75 = very low readiness; 1.76 – 2.5 = low readiness; 2.51 – 3.25 = high readiness; and 3.26 – 4.00 = very high readiness*

*Reported as overall item mean and standard deviation*

The findings illustrated in Table 32 indicate that there were no significant differences in the overall readiness for lifelong learning score within the groups based on current employment status ($F_{4,269} = 1.918$, $p = .108$). The Levene's Test of Homogeneity of Variance revealed the
presence of equal variance between the different groups categorized on the reported employment status ($F_{4,269} = .560, p = .692$).

Table 32
One Way Analysis of Variance Illustrating Differences in Overall Readiness for Lifelong Learning Based on the Current Employment Status of Volunteers Affiliated with a 4-H Youth Development Program in the Southern Region of the United States

<table>
<thead>
<tr>
<th>df</th>
<th>SS</th>
<th>MS</th>
<th>$F^a$</th>
<th>$P^b$</th>
</tr>
</thead>
<tbody>
<tr>
<td>Between Groups</td>
<td>4</td>
<td>.740</td>
<td>.185</td>
<td>1.918</td>
</tr>
<tr>
<td>Within Groups</td>
<td>269</td>
<td>25.957</td>
<td>.096</td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>273</td>
<td>26.698</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

$^a$ One Way Analysis of Variance

$.05$ Alpha Level for the Two-Tailed Test of Significance

**Current Occupational Category**

Differences in overall lifelong learning readiness scores were also examined by the respondent’s current occupational category. The sample sizes, overall readiness for lifelong learning score item means and standard deviations reported by current occupational category are illustrated in Table 33.

Table 33
Group Sizes, Overall Readiness for Lifelong Learning Item Mean Scores, and Standard Deviation by Current Occupational Category for Volunteers Affiliated with a 4-H Youth Development Program in the Southern Region of the United States

<table>
<thead>
<tr>
<th>Current Occupational Category</th>
<th>n</th>
<th>$M^a$</th>
<th>SD</th>
</tr>
</thead>
<tbody>
<tr>
<td>Professional/Managerial</td>
<td>217</td>
<td>3.213</td>
<td>.315</td>
</tr>
<tr>
<td>Sales/Service/Support</td>
<td>22</td>
<td>3.104</td>
<td>.342</td>
</tr>
<tr>
<td>Trade/Labor</td>
<td>5</td>
<td>3.142</td>
<td>.138</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>244</strong></td>
<td><strong>3.202</strong></td>
<td><strong>.316</strong></td>
</tr>
</tbody>
</table>

*Note:* Thirty three respondents failed to respond to the ethnicity item or provide data for calculation of the overall readiness for lifelong learning score on the questionnaire

$^a$ Interpretive scale: $1.00 – 1.75 =$ very low readiness; $1.76 – 2.5 =$ low readiness; $2.51 – 3.25=$ high readiness; and $3.26 – 4.00 =$ very high readiness

Results from Levene’s Test of Homogeneity of Variance revealed the presence of equal variance between the three occupational categories ($F_{2,241} = 2.074, p = .128$). The differences in overall readiness for lifelong learning score between the groups based on different occupational
categories were not statistically significant ($F_{2,241} = 1.288, p = .278$). Table 34 illustrates the ANOVA results for differences in overall readiness for lifelong learning based respondents reported current occupational category.

Table 34
One Way Analysis of Variance Illustrating Differences in Overall Readiness for Lifelong Learning Based on the Current Occupational Category of Volunteers Affiliated with a 4-H Youth Development Program in the Southern Region of the United States

<table>
<thead>
<tr>
<th></th>
<th>df</th>
<th>SS</th>
<th>MS</th>
<th>$F^a$</th>
<th>$P^b$</th>
</tr>
</thead>
<tbody>
<tr>
<td>Between Groups</td>
<td>2</td>
<td>.257</td>
<td>.128</td>
<td>1.288</td>
<td>.278</td>
</tr>
<tr>
<td>Within Groups</td>
<td>241</td>
<td>24.023</td>
<td>.100</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>243</td>
<td>24.280</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

$a$ One Way Analysis of Variance

$b$ .05 Alpha Level for the Two-Tailed Test of Significance

**Current Employment Requires Continuous Certification/Licensure**

Respondents were also asked to indicate whether their current employment required continuous certification or licensure. An examination of the differences in the overall readiness for lifelong learning score based on whether their current employment required continuous certification/licensure or not was undertaken. Those whose employment required certification had a slightly higher readiness for lifelong learning item mean score (Table 35).

Table 35
Group Sizes, Overall Readiness for Lifelong Learning Item Mean Scores, and Standard Deviation Based on Whether Current Employment Reported by Volunteers Affiliated with a 4-H Youth Development Program in the Southern Region of the United States Required Continuous Certification/Licensure

<table>
<thead>
<tr>
<th>Current Employment Requires Continuous Certification/Licensure</th>
<th>n</th>
<th>$M^a$</th>
<th>SD</th>
</tr>
</thead>
<tbody>
<tr>
<td>Requires Certification/Licensure (Yes)</td>
<td>175</td>
<td>3.218</td>
<td>0.321</td>
</tr>
<tr>
<td>Does not Require Certification/Licensure (No)</td>
<td>87</td>
<td>3.149</td>
<td>0.301</td>
</tr>
<tr>
<td>Total$^b$</td>
<td>262</td>
<td>3.195</td>
<td>0.315</td>
</tr>
</tbody>
</table>

*Note: Fifteen respondents failed to respond to the item on whether their current employment required continuous certification/licensure or provide data for calculation of the overall readiness for lifelong learning score on the questionnaire.

$a$ Interpretive scale: 1.00 – 1.75 = very low readiness; 1.76 – 2.5 = low readiness; 2.51 – 3.25 = high readiness; and 3.26 – 4.00 = very high readiness

$b$ Reported as overall item mean and standard deviation
Results from Levene's Test of Homogeneity of Variance revealed the presence of equal variance between the two groups ($F_{1,260} = 0.024, p = .878$). The differences in overall readiness for lifelong learning score based on whether current occupation requires continuous certification/licensure or not were not statistically significant ($F_{1,260} = 2.835, p = .093$). Table 36 illustrates the ANOVA results for differences in overall readiness for lifelong learning based on whether respondent’s current employment required continuous certification/licensure or not.

Table 36
One Way Analysis of Variance Illustrating Differences in Overall Readiness for Lifelong Learning Based on Whether Current Employment Reported by Volunteers Affiliated with a 4-H Youth Development Program in the Southern Region of the United States Required Continuous Certification/Licensure

<table>
<thead>
<tr>
<th></th>
<th>df</th>
<th>SS</th>
<th>MS</th>
<th>$F^a$</th>
<th>$p^b$</th>
</tr>
</thead>
<tbody>
<tr>
<td>Between Groups</td>
<td>1</td>
<td>.280</td>
<td>.280</td>
<td>2.835</td>
<td>.093</td>
</tr>
<tr>
<td>Within Groups</td>
<td>260</td>
<td>25.699</td>
<td>.099</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>261</td>
<td>25.979</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

$a$ One Way Analysis of Variance  
$b$ .05 Alpha Level for the Two-Tailed Test of Significance

**Format in Which Respondents Prefer Learning**

Differences in overall lifelong learning readiness scores were also examined by the respondents reported preferred format for learning. The sample sizes, overall readiness for lifelong learning score item means and standard deviations reported by respondents preferred format for learning are illustrated in Table 37.

Table 37
Group Sizes, Overall Readiness for Lifelong Learning Item Mean Scores, and Standard Deviation by Preferred Format for Learning for Volunteers Affiliated with a 4-H Youth Development Program in the Southern Region of the United States (Table Continued)

<table>
<thead>
<tr>
<th>Preferred Format for Learning</th>
<th>n</th>
<th>$M^a$</th>
<th>SD</th>
</tr>
</thead>
<tbody>
<tr>
<td>Formal Classes</td>
<td>14</td>
<td>3.163</td>
<td>.316</td>
</tr>
<tr>
<td>Workshops</td>
<td>154</td>
<td>3.166</td>
<td>.295</td>
</tr>
</tbody>
</table>

(Table Continued)
Web-based/online training 69 3.307 .296
Mail correspondence 8 3.284 .375
Mentoring 14 3.111 .407
Total\(^b\) 259 3.204 .310

*Note:* Eighteen respondents failed to respond to the item on their preferred format for learning or provide data for calculation of the overall readiness for lifelong learning score on the questionnaire.

\(^a\) Interpretive scale: 1.00 – 1.75 = very low readiness; 1.76 – 2.5 = low readiness; 2.51 – 3.25 = high readiness; and 3.26 – 4.00 = very high readiness.

\(^b\) Reported as overall item mean and standard deviation.

Results from Levene’s Test of Homogeneity of Variance revealed the presence of equal variance between the three occupational categories \((F_{4, 254} = 1.548, p = .189)\). The differences in overall readiness for lifelong learning score between the groups based on their preferred format for learning were statistically significant \((F_{4, 254} = 3.081, p = .017)\). Table 38 below illustrates the ANOVA results.

### Table 38

One Way Analysis of Variance Illustrating Differences in Overall Readiness for Lifelong Learning Based on the Reported Preferred Format for Learning for Volunteers Affiliated with a 4-H Youth Development Program in the Southern Region of the United States

|                  | df | SS  | MS  | \(F^a\) | \(P^b\) 
<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Between Groups</td>
<td>4</td>
<td>1.150</td>
<td>.287</td>
<td>1.288</td>
<td>.017</td>
</tr>
<tr>
<td>Within Groups</td>
<td>254</td>
<td>23.703</td>
<td>.093</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>258</td>
<td>24.853</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

\(^a\) One Way Analysis of Variance

\(^b\) .05 Alpha Level for the Two-Tailed Test of Significance

The Tukey’s post hoc analysis revealed significant differences in the overall readiness for lifelong learning score between those who reported preference for “Web-based/online training” learning format and those who reported preference for “Workshops” learning format (mean difference = .141).

### Objective Four

Objective four was to determine if a model exists which would explain a significant portion of the variance of readiness for lifelong learning as measured by the overall readiness for
lifelong learning item mean score and the demographic characteristics of age, gender, ethnicity, highest educational level completed, yearly net income, marital status, length in current employment, and the format in which respondents prefer learning. Respondent’s scores from the three sections of the readiness for lifelong learning questionnaire were summed up to obtain the overall readiness for lifelong learning score. The overall item mean score for each respondent was thus calculated from the overall readiness for lifelong learning score and utilized as the dependent variable in the regression equation.

The variables “age” and “length in current employment” were entered into the regression as interval variables. For the categorical independent variables dummy coding was undertaken for regression analysis. In some cases the levels of the independent categorical variables were combined to form new categories. The variable “highest education level completed” which originally had 10 levels was combined into three levels namely “some college”, “bachelors degree” and “graduate degree” which were then dummy coded. The variable “ethnicity” which originally had 6 levels was combined into two levels namely “Caucasian” and “non-Caucasian” which were then dummy-coded. The independent variables “yearly net income”, “marital status”, “gender”, and “format in which respondents prefer learning” were dummy coded including all their original categories.

A graphic histogram illustration of the plotted standardized residuals for the dependent variable Overall Mean shows an approximation of a normal curve, and thus normality is assumed (See Figure 4 below).
A bivariate Pearson product moment correlation was undertaken between the overall readiness for lifelong learning score (dependent variable) and the independent variables. Within each categorical variable, the level of the variable whose correlation with the dependent variable was least significant was dropped from further analysis. The dropped independent variable levels included: “high school diploma” in the “highest education level completed” variable (n = 272, r = -.021, p = .724); “yearly net income $75,001 – 100,000” (n = 259, r = .012, p = .850); “married” in the marital status variable (n = 270, r = -.028, p = .650); and “mail correspondence” in the preferred format for learning (n = 259, r = .046, p = .460).

The remaining independent variables were entered stepwise into the regression analysis with the overall readiness for lifelong learning item mean score entered as the dependent variable. Several diagnostic checks for collinearity suggested by Hair, Anderson, Tatham, and Black (1998) were undertaken. An examination of the correlation matrix for independent
variables did not reveal any high correlations. A look at the variance inflation factor (VIF) and the tolerance values did not indicate presence of a collinearity problem.

Four variables were retained in the equation and determined to explain approximately 9% \((R^2 = .093)\) of the variance in the overall readiness for lifelong learning score. The regression equation with the four independent variables was found to be significant in predicting the overall readiness for lifelong learning score \((F_{4, 272} = 6.937, p = <.001)\). All the four variables significantly contributed to the model: “web-based/online training” learning format \((t = 3.178, p = .002)\); “more than 100,001” yearly net income \((t = -2.541, p = .012)\), “single/never married” marital status \((t = -2.286, p = .023)\), and “divorced” marital status \((t = 2.007, p = .046)\). Table 39 illustrates the ANOVA and model summary results for the regression equation employing four independent variables in predicting the overall readiness for lifelong learning score and the model summary.

Table 39
Significance of the Regression Equation and Model Summary Employing Four Independent Variables in Predicting Overall Readiness for Lifelong Learning of Volunteers Affiliated with a 4-H Youth Development Program in the Southern Region of the United States

<table>
<thead>
<tr>
<th>Model</th>
<th>df</th>
<th>SS</th>
<th>MS</th>
<th>(F^a)</th>
<th>(P^b)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Regression</td>
<td>4</td>
<td>2.487</td>
<td>.622</td>
<td>6.937</td>
<td>&lt;.001</td>
</tr>
<tr>
<td>Residual</td>
<td>272</td>
<td>24.375</td>
<td>.090</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>276</td>
<td>26.862</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Model</th>
<th>R</th>
<th>(R^2)</th>
<th>(R^2) Change</th>
<th>(F) Change</th>
<th>df1</th>
<th>df2</th>
<th>Sig. F Change</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>.304</td>
<td>.093</td>
<td>.013</td>
<td>4.027</td>
<td>1</td>
<td>272</td>
<td>.046</td>
</tr>
</tbody>
</table>

\(^a\) One Way Analysis of Variance
\(^b\) .05 Alpha Level for the Two-Tailed Test of Significance

The coefficient values, t values and corresponding significance levels for the independent variables retained in the regression equation predicting overall readiness for lifelong learning scores are presented in Table 40.
Table 40
Coefficient Values, Standard Errors, Standardized Coefficient Values, T Values, and Significance Levels for Independent Variables Retained in the Regression Equation Predicting Overall Readiness for Lifelong Learning Score

<table>
<thead>
<tr>
<th>Variable</th>
<th>β</th>
<th>SE</th>
<th>Beta</th>
<th>t</th>
<th>p</th>
</tr>
</thead>
<tbody>
<tr>
<td>Constant</td>
<td>3.179</td>
<td>.024</td>
<td></td>
<td>2.442</td>
<td>&lt;.001</td>
</tr>
<tr>
<td>Format for learning preferred</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>“Web-based/online training”</td>
<td>.135</td>
<td>.042</td>
<td>.185</td>
<td>3.178</td>
<td>.002</td>
</tr>
<tr>
<td>Yearly net income</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>“More than $100,001”</td>
<td>-.184</td>
<td>.072</td>
<td>-.149</td>
<td>-2.541</td>
<td>.012</td>
</tr>
<tr>
<td>Marital status</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>“Single never married”</td>
<td>-.142</td>
<td>.062</td>
<td>-.133</td>
<td>-2.286</td>
<td>.023</td>
</tr>
<tr>
<td>“Divorced”</td>
<td>.141</td>
<td>.070</td>
<td>.117</td>
<td>2.007</td>
<td>.046</td>
</tr>
</tbody>
</table>

*05 Alpha Level for the Two-Tailed Test of Significance

The variables excluded from the regression equation and their corresponding t values and significance levels are illustrated in Table 41.

Table 41
Excluded Variables, Standardized Coefficients, T Values, Significance Levels, and Partial Correlations for the Regression Equation Predicting Overall Readiness for Lifelong Learning Score

<table>
<thead>
<tr>
<th>Variable</th>
<th>Beta In</th>
<th>t</th>
<th>p</th>
<th>Partial Correlation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Age as of Last Birthday</td>
<td>-.016</td>
<td>-.264</td>
<td>.792</td>
<td>-.016</td>
</tr>
<tr>
<td>Length in current employment position</td>
<td>-.033</td>
<td>-.558</td>
<td>.577</td>
<td>-.034</td>
</tr>
<tr>
<td>Highest level of education completed</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>“Some College”</td>
<td>-.097</td>
<td>-1.673</td>
<td>.095</td>
<td>-.101</td>
</tr>
<tr>
<td>“Bachelors degree”</td>
<td>.039</td>
<td>.678</td>
<td>.499</td>
<td>.041</td>
</tr>
<tr>
<td>“Graduate school”</td>
<td>.048</td>
<td>.817</td>
<td>.415</td>
<td>.050</td>
</tr>
<tr>
<td>Yearly net income</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>“Less than $25,000”</td>
<td>-.096</td>
<td>-1.620</td>
<td>.106</td>
<td>-.098</td>
</tr>
<tr>
<td>“$25,001 - $50,000”</td>
<td>.005</td>
<td>.090</td>
<td>.928</td>
<td>.005</td>
</tr>
<tr>
<td>“$50,001 - $75,000”</td>
<td>.070</td>
<td>1.200</td>
<td>.231</td>
<td>.073</td>
</tr>
<tr>
<td>Marital status</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>“Separated”</td>
<td>.093</td>
<td>1.617</td>
<td>.107</td>
<td>.098</td>
</tr>
<tr>
<td>“Widowed”</td>
<td>.005</td>
<td>.084</td>
<td>.933</td>
<td>.005</td>
</tr>
<tr>
<td>Gender</td>
<td>.022</td>
<td>.371</td>
<td>.711</td>
<td>.023</td>
</tr>
<tr>
<td>Ethnicity</td>
<td>.070</td>
<td>1.198</td>
<td>.232</td>
<td>.073</td>
</tr>
<tr>
<td>Format for learning preferred</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>“Formal classes”</td>
<td>.019</td>
<td>.313</td>
<td>.755</td>
<td>.019</td>
</tr>
<tr>
<td>“Workshops”</td>
<td>-.031</td>
<td>-.358</td>
<td>.720</td>
<td>-.022</td>
</tr>
<tr>
<td>“Mentoring”</td>
<td>-.055</td>
<td>-.935</td>
<td>.351</td>
<td>-.057</td>
</tr>
</tbody>
</table>

*05 Alpha Level for the Two-Tailed Test of Significance
CHAPTER 5
CONCLUSIONS AND RECOMMENDATIONS

Purpose of the Study

The overall purpose of this study was to explore and determine the degree of readiness for lifelong learning of adult volunteers affiliated with a 4-H Youth Development Program in the southern region of the United States. Specifically, the study addressed the following objectives:

1. To describe adult volunteers affiliated with a 4-H Youth Development Program in the southern region of the United States on the following demographic characteristics
   a) Age
   b) Gender
   c) Ethnicity
   d) Highest educational level completed
   e) Yearly net income
   f) Marital Status
   g) Presence of children at home
   h) Employment status
   i) Length in current employment position
   j) Current occupational category
   k) Whether or not volunteer’s current employment requires continuous certification
   l) Number of times respondent has changed jobs in the last five years
   m) Length of time volunteering
   n) Format in which respondents prefer learning
2. To determine the readiness for lifelong learning of adult volunteers affiliated with a 4-H Youth Development Program in the southern region of the United States as measured by the Readiness for Lifelong Learning Scale

3. To determine if differences exist in the readiness for lifelong learning as measured by the Readiness for Lifelong Learning Scale within the following demographic characteristics
   a) Gender
   b) Ethnicity
   c) Highest educational level completed
   d) Yearly net income
   e) Marital status
   f) Presence of children at home
   g) Employment status
   h) Current occupational category
   i) Whether or not volunteer’s current employment requires continuous certification
   j) Format in which respondents prefer learning

4. To determine if a model exists which would explain a significant portion of the variance of readiness for lifelong learning as measured by the readiness for lifelong learning overall item mean score and the demographic characteristics of age, gender, ethnicity, highest educational level completed, yearly net income, marital status, length in current employment, and format in which respondents prefer learning.

**Procedures**

This study targeted adults who volunteer to a 4-H youth development program. However, the accessible population was adult volunteers whose emails were available from the volunteer
The questionnaire used in this study, the Readiness for Lifelong Learning Questionnaire consisted of three sections: readiness to respond to triggers for learning, readiness to overcome deterrents to participation in learning, and self-directed learning readiness. The first two sections were developed by the researcher based on a review of related literature, while the last section was adapted and modified from an existing questionnaire. The questionnaire was reviewed by subject matter experts to establish face and content validity. Feedback was also sought from graduate students in a doctoral level research methods class and members of a church with regards to the necessity, relevance, structure and clarity of items in the questionnaire.

The questionnaire was administered via an online survey system (Zoomerang). A total of 1815 adult volunteers who had provided usable emails in the enrollment database system were invited to participate in this study. The final response count was 277 representing a 15.3% response rate.

Summary of Major Findings

Objective One

- **Age** – The results indicated that the majority of respondents were middle-aged. The two largest groups of respondents indicated their age fell between 36 and 45 years (n = 96, 35%), and 46 and 55 years (n = 91, 33.2%).

- **Gender** – The majority of the respondents reported their gender as female (n = 230, 83.9%) while the remaining 16.1% (n = 44) of respondents indicated their gender as male.
• Ethnicity – The majority of respondents identified themselves as Caucasians (n = 238, 87.2%). The next largest group identified themselves as African Americans (n = 28, 10.3%).

• Highest level of education completed – The majority of the respondents reported completing at least a Bachelor’s degree. Those reporting completion of a Bachelor of Arts or Science comprised the largest group (n = 117, 43.0%), followed by 30.1% (n = 82) who reported having completed a Masters degree.

• Yearly net income – The largest number of respondents reported their yearly net income as falling between $25,000 and $50,000 (n = 107, 41.3%). The next largest group (n = 70, 27.0%) reported their income as falling between $50,001 and $75,000. The smallest group (n = 19, 7.3%) reported their net yearly income as above $100,000.

• Marital status – The majority of respondents reported being married (n = 214, 79.3%). The group featuring the least number of respondents was widowed (n = 8, 3.0%).

• Presence of children at home - The largest group of respondents reported having children at home (n = 184, 67.9%). The remaining 32.1% of the respondents (n = 87) indicated they do not have children at home.

• Employment status – The majority of respondents reported being employed full time (n = 226, 82.5%). The lowest number of respondents reported being employed on a contract basis (n = 9, 3.3%).

• Length in current employment position – The largest group of respondents reported being in their current employment for between 1 and 10 years (n = 111, 43.4%). The next largest group (n = 66, 25.8%) reported being in their current employment for between 10 and 20 years. Three respondents (1.2%) reported as being currently unemployed.
• Current occupational category – The majority of the respondents reported their current occupational category as professional/managerial (n = 217, 88.9). The current occupational category that had the least number of respondents (n = 5, 2.1%) was trade/labor.

• Current employment requires continuous certification or licensure – The largest group of respondents (n = 175, 66.8%) indicated that their current employment requires certification or licensure while the remaining 33.2% (n = 87) indicated their current employment did not require continuous certification or licensure.

• Number of times respondent has changed jobs in the last five years – The majority of respondents (n = 191, 72.6%) indicated they had not changed jobs in the last five years. The next largest group of respondents (n = 47, 18%) indicated that they changed jobs only once in the last five years.

• Length of time volunteering – The largest group of respondents indicated that they had volunteered with the 4-H Youth Development program for between 1 and 10 years (n = 165, 65.2%). The next largest group (n = 42, 16.6%) indicated they had volunteered for between 10 and 20 years. The average length of time volunteering was 16.1 years (SD = 26.77).

• Format in which respondents prefer learning – The largest group of respondents (n = 154, 59.5%) had a preference for workshops. The least preferred format for learning was mail correspondence (n = 8, 3.1%).

**Objective Two**

Factor analysis was undertaken for each of the three parts that comprised the readiness for lifelong learning questionnaire. Findings for the self-directed learning part of the survey indicated the presence of one factor, loading all 32 variables, which was named general self-
directed learning characteristics. In the scale, respondents rated the extent to which a list of characteristics related to self-directed learning readiness measured a characteristic of themselves. The item that received the highest level of agreement from respondents was “I have high personal Standards” with a mean 3.67 (SD= 0.471) which fell in the “strongly agree” range on the interpretive scale. Overall, the response to most items (27 items) fell within the “Agree” range on the interpretive scale.

Findings for the readiness to respond to triggers for learning revealed a three factor solutions that explained 49.79% of the total variance. The first factor labeled “primary changes” loaded 14 variables. These included major, one-time challenges or changes in life circumstances, which would not be classified as everyday occurrences which trigger adult participation in learning. Factor Two labeled “secondary changes” loaded 9 variables which can be classified as everyday changes in life circumstances or regular life maintenance challenges. Factor Three labeled “work changes” loaded 4 variables which were primarily work-related changes in circumstances. Respondents were presented with a list of circumstances likely to occur in an adult’s life and directed to rate the extent to which they would seek and participate in learning activities if the listed events were to occur in their lives. The item that respondents expressed the highest likelihood of seeking and participating in learning activities was “Helping teenagers (children or sibling) become responsible adults” with a mean 3.62 (SD= 0.642) which fell in the “very likely” range on the interpretive scale. Overall, the response to most items (17 items) fell within the “Likely” range on the interpretive scale.

Findings for the readiness to overcome deterrents to participation in learning revealed a Four-Factor solution which explained 63.27% of the total variance. The first factor labeled “programmatic issues” loaded five variables. The second factor labeled “dispositional issues” loaded four variables. The third factor labeled “cost issues” loaded three variables while the
fourth factor labeled “learning technology issues” loaded three variables. The items in this section of the survey assessed the level of the respondents’ agreement about their readiness to overcome some listed deterrents to participation in learning. The item that received the highest level of agreement from respondents was “I can learn regardless of my age” with a mean 3.54 (SD= 0.512) which fell in the “Strongly Agree” range on the interpretive scale. Overall, almost half of the responses (8 items) fell within the “Agree” range on the interpretive scale, while the rest (7 items) fell within the strongly agree range.

The overall readiness for lifelong learning score was obtained by summing the sub-scale scores from the three sections of the Readiness for Lifelong Learning Questionnaire. The item mean score for the overall readiness for lifelong learning (M = 3.198, SD = .31197) fell within the “high readiness” category on the interpretive scale developed for the overall score.

**Objective Three**

- Gender - The differences in the overall readiness for lifelong learning score between the gender groups were not statistically significant (F₁, 272 = 2.117, p = .147).
- Ethnicity – There were no significant differences in the overall readiness for lifelong learning score within the reported ethnic groups (F₅, 267 = .710, p = .616).
- Highest level of education completed - The differences in the overall readiness for lifelong learning score between groups based on the highest level of education completed were not significant (F₈, 263 = 1.193, p = .303).
- Yearly net income - The Levenes Test of Homogeneity of Variance revealed a violation of the assumption of equal variances among the groups based on yearly net income (F₄, 254 = 3.858, p = .005). A calculation of the Welch Statistic revealed that the differences in the overall readiness for lifelong learning score among the groups reporting the various yearly net incomes were statistically significant (4.742; 4, 78.297; p = .002). From
Tukeys post hoc analysis, the difference was found to be between those reporting more
than $100,000 yearly net income and those reporting a yearly net income of between
$50,001 and $75,000 (mean difference = .25).

- Marital status - There were significant differences in the overall readiness for lifelong
  learning score within the groups based on marital status ($F_{4,265} = 2.819, p = .026$). From
  Tukeys post hoc analysis, the difference was found to be between who reported being
  “single/never married” and those who reported being “divorced” (mean difference = -
  .27).

- Presence of children at home - The differences in overall readiness for lifelong learning
  score between those with children at home and those without were not statistically
  significant ($F_{1,269} = .886, p = .347$).

- Employment status - There were no significant differences in the overall readiness for
  lifelong learning score within the groups based on current employment status ($F_{4,269} =
  1.918, p = .108$).

- Current occupational category - The differences in overall readiness for lifelong learning
  score between the groups based on different occupational categories were not statistically
  significant ($F_{2,241} = 1.288, p = .278$).

- Current employment requires continuous certification/licensure - The differences in
  overall readiness for lifelong learning score based on whether current occupation requires
  continuous certification/licensure or not were not statistically significant ($F_{1,260} = 2.835,
  p = .093$).

- Format in which respondents prefer learning - There were significant differences in the
  overall readiness for lifelong learning score within the groups based on the format in
  which respondents preferred learning ($F_{4,265} = 2.819, p = .026$). From Tukeys post hoc
analysis, the difference was found to be between who reported a preference for “Web-based/online training” learning format and those who reported preference for “Workshops” learning format (mean difference = .141).

**Objective Four**

An exploratory model was found to exist that explained a significant portion of the variance in overall readiness for lifelong learning mean score ($R^2 = .093$) from selected demographic variables ($F_{4, 272} = 6.937, p = <.001$). Four independent demographic variables retained in the regression equation were found to significantly contribute to the regression model. The variables included “web-based/online training” learning format, “more than 100,001” yearly net income, “single/never married” marital status, and “divorced” marital status.

**Conclusions, Implications and Recommendations**

**Conclusion One**

The respondents to this study were predominantly Caucasian (87%), middle-aged (average age was 46 years), female (83%), married (79%), have children (68%), have a Bachelors degree or higher educational level (71%), and are in full-time employment (82%). In some respects this may be typical demographics for 4-H volunteers. Studies by Fritz, Barbuto, Marx, and Etling (2000) and Fritz, Barbuto, Karmazin, and Burrow (2003) found that 4-H volunteers were middle-aged (average age was 46 years), married and most had children in 4-H at the time or had had in the past. One of the main factors that motivated them to be 4-H volunteers was to be with their children. The study Fritz, Barbuto, Marx, and Etling (2000) found that the majority of volunteers had a high school education.

Whereas the study provides valuable information about the readiness for lifelong learning of volunteers to this 4-H Youth Development Program, generalizing the results presents a challenge. The results of this study thus apply to a slice of the volunteer population who are
Caucasian, female, married and have children, highly educated and employed full time. This is atypical of a general adult population. It is recommended that the study be conducted with a more general adult population which may be diverse with regards to the above mentioned demographic variables.

**Conclusion Two**

The results of this study indicated that the 4-H volunteers in this study had an overall readiness for lifelong learning which was categorized as “high readiness”. The implication is that they are more likely to engage in lifelong learning since they ranked themselves high in personality characteristics related to self-directed learning, rated highly the likelihood that they would participate in learning when faced with circumstances known to trigger adult participation in learning, and rated themselves highly when it comes to ability to overcome known deterrents to participation in learning.

Due to the exploratory nature of this study, and the fact that this study used a new conceptualization of lifelong learning readiness, there are not studies in the literature to which these results can be effectively compared. However, a look at Desjardins, Rubenson, and Milana’s (2006) study shows that certain demographic variables can help explain these results. The likelihood of participating in adult education varies by many demographic variables with some having more effect than others. For instance, those with higher levels of educational attainment are more likely to participate in adult education. According to Desjardins, Rubenson, and Milana (2006) it is “through formal education adults acquire a readiness to learn” (p. 67). It prepares people for further learning. They also state that employed adults are more likely to participate than unemployed adults. The 4-H volunteers were preponderantly employed full time and indicated high levels of education completed, hence the more likelihood they would indicate high readiness for lifelong learning.
The recommendation is that the survey be administered to a more diverse population especially to capture the readiness for lifelong learning of a population with lower formal education attainment (less than bachelors degree) and those with less than full-time employment (unemployed, part-time employed or contract workers).

**Conclusion Three**

The first part of the readiness for lifelong learning questionnaire assessed the extent to which respondents identified themselves as possessing characteristics associated with self-directed learning. Overall, responses to most items fell within the “agree” range on the interpretive scale. The implication here is that volunteers to the 4-H Youth Development Program responding to this survey identified in themselves attitudes, abilities and personality characteristics possessed by self-directed learners. This part of the questionnaire was adapted and modified for this study from Self-Directed Learning Readiness Scale (SDLRS) developed by Fisher, King and Tague (2001) which was originally designed to assess nurses’ work-related self-directed learning. This study however failed to reproduce the three factor solution that emerged from Fisher, King, and Tague’s (2001) original study. In this study, the self-directed learning readiness part of the survey was found to have one strong underlying factor. This difference is attributed to the use of the questionnaire with 4-H volunteers who happened to be preponderantly female, highly educated, employed full-time, middle-aged, married, and living in the United States which may be different from undergraduate nursing students living in Australia used in the original study by Fisher, King, and Tague’s (2001). It is recommended that this section of the questionnaire be tested with nursing students in the United States and a general adult population to see if a factor structure close to the original factor structure would emerge.
**Conclusion Four**

Results indicated that the respondents were likely to engage in learning when faced with circumstances known to trigger adult participation in learning. Responses to most items in the readiness to respond to triggers for learning part of the survey fell within the “likely” range on the interpretive scale. The triggers for adult learning are likely to occur throughout life (lifelong) and cover breadth of life (life-wide), hence, by responding to these triggers, respondents are likely to engage in lifelong and life-wide learning.

After a review of the literature on adult life cycle, Aslanian and Brickell (1980a) concluded that adult life is divided into stages which are rooted in their biological, social and psychological nature. Each stage has its own challenges and opportunities which may be met through engagement in learning. The implication here is that people in different stages of life may be experiencing different triggers for adult learning. It is possible that two people in different life stages may rate one trigger for adult learning differently or respond to it differently. It is thus recommended that in future studies involving triggers for adult learning, a generational effect be investigated.

**Conclusion Five**

There were significant differences in the overall readiness for lifelong learning mean score based on marital status, yearly net income and preferred format for learning. The respondents who reported being “divorced” had a significantly higher mean than those who reported being “single never married”. Those who reported a yearly net income of “$50,001-$75,000” had a significantly higher overall readiness for lifelong learning mean score that those earning “greater than $100,001”. Those who reported preference for “web-based/online training” format for learning had a significantly different mean in the overall readiness for lifelong learning score than those who chose “workshops” as a preferred format for learning.
The implication is that within this group of 4-H volunteers, those who are divorced were more likely to have a higher readiness for lifelong learning than single people. Volunteers who reported earning between $50,001 and $75,000 were more likely to have a higher readiness for lifelong learning than those earning more than $100,000 yearly net income. Finally, those who reported preference for web-based learning were more likely to have a higher readiness for lifelong learning than those who reported preference for workshops. There was an expectation that there would be significant differences in the overall readiness for lifelong learning score based on such demographic variables as formal education attainment, ethnicity, age and gender which Desjardins, Rubenson, and Milana (2006) list as contributing to differences in participation in adult learning which was not met in this study.

The observations above may be due to the specific demographic characteristics of the population studied. It is recommended that this survey be administered to a general adult population to investigate the demographic variables that contribute to differences in readiness for lifelong learning and compared to see whether they differ from demographic characteristics which bring about significant differences with regards to participation in adult education.

Also, it is recommended that items addressing ways in which respondents’ source information, with special emphasis on online learning technologies and social media be included in the survey. The role in which online/web-based learning plays in promoting self-directed learning readiness and lifelong learning readiness should be investigated.

**Conclusion Six**

A regression model was found that explained a significant portion of the variance in the overall readiness for lifelong learning score with four independent demographic variables significantly contributing to it. The variables included “web-based/online training” learning format, “more than 100,001” yearly net income, “single/never married” marital status, and
“divorced” marital status. Preference for web-based or online training and divorced marital status increased the overall readiness for lifelong learning score, while earning more than $100,000 in yearly net income and being single reduced the overall readiness for lifelong learning score. Since there is no literature addressing the contributions of the above demographic variables to readiness for lifelong learning, they should be investigated further to reveal why this is the case.
REFERENCES


APPENDIX A

LOUISIANA STATE UNIVERSITY INSTITUTIONAL REVIEW BOARD (IRB) FOR PROTECTION OF HUMAN SUBJECTS APPROVAL LETTER
Application for Exemption from Institutional Oversight

Institutional Review Board
Dr. Robert Mathews, Chair
203 B-1 David Boyd Hall
Baton Rouge, LA 70803
P: 225.578.6952
F: 225.578.6792
lib@lsu.edu | lsu.edu/irb

LSU

Applicant, Please fill out the application in its entirety and include the completed application as well as parts A-E, listed below, when submitting to the IRB. Once the application is completed, please submit two copies of the completed application to the IRB Office or to a member of the Human Subjects Screening Committee. Members of this committee can be found at http://www.lsu.edu/irb/screeningmembers.shtml

1. Complete Application Includes All of the Following:
   (A) Two copies of this completed form and two copies of parts B thru E.
   (B) A brief project description (adequate to evaluate risks to subjects and to explain your responses to Parts 1 & 2)
   (C) Copies of all instruments to be used.
   (D) The consent form that you will use in the study (see part 3 for more information.)
   (E) Certificate of Completion of Human Subjects Protection Training for all personnel involved in the project, including students who are involved with testing or handling data, unless already on file with the IRB.
   Training link: (http://php.nihtraining.com/users/login.php)

1) Principal Investigator: Kenneth Kimani Kungu
   Dept: Human Resource Ed. Ph: 225-578-1062 E-mail: kungok@lsu.edu
   Rank: 
   Student? Y/N Yes

2) Co Investigator(s): please include department, rank, phone and e-mail for each
   * If student, please identify and name supervising professor in this space
   Dr. Kristanna Machmela, Associate Professor, School of Human Resource Education

3) Project Title: Readiness for Lifelong Learning of Volunteers Affiliated with 4-H Youth Development Program in the Southern Portion of the United States

4) LSU Proposal?(yes or no) ☐ If Yes, LSU Proposal Number
   Also, if YES, either ☐ This application completely matches the scope of work in the grant
   OR ☐ More IRB Applications will be filed later

5) Subject pool (e.g. Psychology Students) ☐ Volunteers to a 4-H Program ☐ Other (circle any "vulnerable populations" to be used: (children <18, the mentally impaired, pregnant women, the aged, other). Projects with incarcerated persons cannot be exempted.

6) PI Signature: 
   ** Date (no per signatures)
   "I certify that my responses are accurate and complete. If the project scope or design is later changed, I will resubmit for review. I will obtain written approval from the Authorized Representative of all non-LSU Institutions in which the study is conducted. I also understand that it is my responsibility to maintain copies of all consent forms at LSU for three years after completion of the study. If I leave LSU before that time the consent forms should be preserved in the Departments Office.

Screening Committee Action: Exempted ☐ Not Exempted ☐ Category/Paragraph 2
Reviewer: Mathews Signature: AMC Date: 2/21/09

Exemption Expires: 2/21/09

Institutional Review Board
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lib@lsu.edu | lsu.edu/irb

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APPENDIX B

READINESS FOR LIFELONG LEARNING INSTRUMENT
Readiness for Lifelong Learning Questionnaire

Thank you very much for participating in this survey. Your participation in this survey is voluntary and your cooperation is highly appreciated. Your responses will be kept confidential. The survey has four parts and will take approximately 10-15 minutes to complete.

Definition of Learning Activities

Adults are increasingly engaging in learning activities for a variety of reasons.

1. For the purposes of this study, only those activities that you engage in for the **sole purpose of gaining some specific knowledge, skills or attitudes** are considered learning activities. The total amount of time engaged in a specific learning project should exceed two hours.

2. Learning activities may include enrollment full-time or part-time in a college or vocational school, attending seminars and workshops within the community, training at places of employment, television courses, independent reading/study projects (library or online), correspondence courses, mentoring, goal-directed informal learning from colleague/friend.

PART 1

Directions

Below is a list of characteristics of adult learners. Please rate each item regarding the **degree the item measures a characteristic of yourself** (1 = Strongly Disagree-SD, 2 = Disagree-D, 3 = Agree-A, 4 = Strongly Agree-SA).

<table>
<thead>
<tr>
<th></th>
<th>SD 1</th>
<th>D 2</th>
<th>A 3</th>
<th>SA 4</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>I solve problems using a plan</td>
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<tr>
<td>2</td>
<td>I manage my time well</td>
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<tr>
<td>3</td>
<td>I have good management skills</td>
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<td>4</td>
<td>I prefer to plan my own learning</td>
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<tr>
<td>5</td>
<td>I am able to focus on a problem</td>
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<td>6</td>
<td>I need to know why</td>
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<tr>
<td>7</td>
<td>I critically evaluate new ideas</td>
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<tr>
<td>8</td>
<td>I learn from my mistakes</td>
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<tr>
<td>9</td>
<td>I am open to new ideas</td>
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<tr>
<td>10</td>
<td>When presented with a problem I cannot resolve, I will ask for assistance</td>
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<tr>
<td>11</td>
<td>I am responsible</td>
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<tr>
<td>12</td>
<td>I like to evaluate what I do</td>
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<tr>
<td>13</td>
<td>I have high personal expectations</td>
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<tr>
<td>14</td>
<td>I have high personal standards</td>
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<tr>
<td>15</td>
<td>I have high beliefs in my abilities</td>
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Please go on to the Next Page
### PART 2

**Directions**
Below are circumstances that are likely to occur in any adult’s life. In each circumstance presented below, please indicate the likelihood that you would seek and participate in a learning activity if it occurs in your life (1= Very Unlikely, 2= Unlikely, 3= Likely, 4= Very Likely).

<table>
<thead>
<tr>
<th></th>
<th>Very Unlikely</th>
<th>Unlikely</th>
<th>Likely</th>
<th>Very Likely</th>
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</thead>
<tbody>
<tr>
<td>16 I am aware of my own limitations</td>
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<tr>
<td>17 I am confident in my ability to search out information</td>
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<tr>
<td>18 I enjoy studying</td>
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<tr>
<td>19 I have a need to learn</td>
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<tr>
<td>20 I enjoy a challenge</td>
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<tr>
<td>21 I want to learn new information</td>
<td></td>
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<td></td>
<td></td>
</tr>
<tr>
<td>22 I enjoy learning new information</td>
<td></td>
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<td></td>
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<tr>
<td>23 I set specific times for my study</td>
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<tr>
<td>24 I am self-disciplined</td>
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<tr>
<td>25 I like to gather facts before I make a decision</td>
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<td></td>
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<tr>
<td>26 I evaluate my own learning</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>27 I prefer to set my own criteria on which to evaluate my learning</td>
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<td></td>
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<tr>
<td>28 I am responsible for my decisions/actions</td>
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<td></td>
<td></td>
<td></td>
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<tr>
<td>29 I can be trusted to pursue my own learning</td>
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<td></td>
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<tr>
<td>30 I can find out information for myself</td>
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<td></td>
<td></td>
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<tr>
<td>31 I like to make decisions for myself</td>
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<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>32 I prefer to set my own learning goals</td>
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</table>

Please go on to the Next Page
<table>
<thead>
<tr>
<th></th>
<th></th>
<th>Very Unlikely 1</th>
<th>Unlikely 2</th>
<th>Likely 3</th>
<th>Very Likely 4</th>
</tr>
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<tbody>
<tr>
<td>15</td>
<td>A high price expenditure decision e.g. buying a house, car, equipment</td>
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<tr>
<td>16</td>
<td>Reduction in family income</td>
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<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>17</td>
<td>Increase in family income</td>
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</tr>
<tr>
<td>18</td>
<td>Rising cost of living</td>
<td></td>
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<td></td>
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<tr>
<td>19</td>
<td>Loss of personal health through injury or illness</td>
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<tr>
<td>20</td>
<td>Injury or illness of a family member</td>
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<tr>
<td>21</td>
<td>Need to maintain good health</td>
<td></td>
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<tr>
<td>22</td>
<td>Moving to a new location e.g. neighborhood, city</td>
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<tr>
<td>23</td>
<td>Acquiring a new house or apartment</td>
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<tr>
<td>24</td>
<td>Retirement</td>
<td></td>
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<tr>
<td>25</td>
<td>Getting a divorce</td>
<td></td>
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<tr>
<td>26</td>
<td>Changes in hobbies</td>
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<tr>
<td>27</td>
<td>Loss of a spouse or close family member</td>
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<tr>
<td>28</td>
<td>Changes in communication technology</td>
<td></td>
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<tr>
<td>29</td>
<td>Changes in information technology e.g. computer programs</td>
<td></td>
<td></td>
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</tbody>
</table>

**PART 3**

**Directions**
Please rate each item regarding the extent to which you agree or disagree that the item measures a characteristic of yourself (1 = Strongly Disagree-SD, 2 = Disagree-D, 3 = Agree-A, 4 = Strongly Agree-SA)

<table>
<thead>
<tr>
<th></th>
<th></th>
<th>SD 1</th>
<th>D 2</th>
<th>A 3</th>
<th>SA 4</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>I search until I find learning activities that meet my learning needs</td>
<td></td>
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<tr>
<td>2</td>
<td>I am capable of finding good quality learning activities</td>
<td></td>
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<tr>
<td>3</td>
<td>I search until I find learning activities that fit my schedule</td>
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<tr>
<td>4</td>
<td>I always make time to learn when I need to</td>
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<tr>
<td>5</td>
<td>I am able to balance time between family and learning activities</td>
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<tr>
<td>6</td>
<td>I always find a cost effective way to learn what I need to learn</td>
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<tr>
<td>7</td>
<td>I always find ways to cover the costs for the learning that I need</td>
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<tr>
<td>8</td>
<td>Costs cannot keep me from learning what I need to learn</td>
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<tr>
<td>9</td>
<td>I am confident of my learning ability</td>
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<tr>
<td>10</td>
<td>I can learn regardless of my age</td>
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<tr>
<td>11</td>
<td>Age cannot keep me from learning what I need to learn</td>
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<tr>
<td>12</td>
<td>I do what it takes to get ready to learn what I need to learn</td>
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<tr>
<td>13</td>
<td>I am confident in my ability to search for information online</td>
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<tr>
<td>14</td>
<td>I can use technology to access a variety of learning activities</td>
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<tr>
<td>15</td>
<td>I am confident in my ability to use technology in learning</td>
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</tbody>
</table>

*Please go on to the next page*
PART 4

Directions
Please provide the following information regarding your personal characteristics. This information is intended to better help the researcher analyze the collected data. CONFIDENTIALITY for individual responses is guaranteed. Please select or type your response to the following questions in the space provided.

1. Age as of your last birthday ____________________

2. Gender
   Male ___
   Female ___

3. Ethnicity
   African American
   Hispanic
   Asian
   Caucasian
   Native American
   Other Please Specify _______________

4. Highest Level of Education Completed
   Less than High School Diploma
   High School Diploma
   Some Vocational/Technical School
   Vocational/Technical School Degree
   Some College
   Associate Degree
   Bachelors Degree (BA/BS)
   Masters Degree (MA/MS/ MBA)
   Professional Degree (J.D./M.D.)
   Doctoral Degree (Ph.D/Ed.D/Psy.D)

5. Yearly net income
   Less than $25,000
   $25,001-$50,000
   $50,001-$75,000
   $75,001-$100,000
   More than $100,000

6. Marital status
   Single Never Married
   Married
   Separated
   Divorced
   Widowed

Please go on to the next page
7. Do you have children living at home
   Yes
   No

8. Employment status
   Unemployed
   Employed Full Time
   Employed on a Contract Basis
   Employed Part Time
   Retired

9. Length in current employment (Approximate)
   Years _____ Months _______

10. Your current occupational category (Use the Occupational guide provided below)
    Professional and managerial
    Sales, service and support
    Trades

    Professional and managerial
    Executive, Administrative, Managerial Occupations
    Engineers, Surveyors, and Architects
    Natural Scientists and Mathematicians
    Social Scientists, Social/Religious Workers and Lawyers
    Teachers: College, University, and Other
    Teachers, except Postsecondary Institution
    Health Diagnosing and Treating Practitioners
    Registered Nurses, Pharmacists, Dieticians, and Therapists
    Writers/Artists/Entertainers/Athletes
    Health Technologists and Technicians

    Sales, service and clerical
    Technologists and Technicians, except Health
    Marketing and Sales Occupations
    Administrative Support Occupations, including Clerical
    Service Occupations
    Miscellaneous Occupations

    Trade and labor
    Agricultural, Forestry, and Fishing Occupations
    Mechanics and Repairers
    Construction/Extractive Occupations
    Precision and Production Working Occupations
    Transportation and Material Moving Occupations

11. Current employment requires continuous certification?
    Yes       No

Please go on to the next page
12. In the last five years, how many times have you changed jobs? _____ (Number of times)

13. Volunteer role
   - Activity leader/helper
   - Board/committee member
   - Chaperone
   - Fundraising
   - Judge
   - Organizational club leader
   - Project leader
   - Resource person

14. Length of time volunteering (Approximate)
    Years _____   Months ______

15. Do you intend to continue volunteering?
    Yes    No

16. Have you been offered orientation or training to help you with your volunteer work?
    Yes    No

17. In what format do you prefer learning?
    - Formal classes
    - Workshops
    - Web-based/online learning
    - Mail correspondence
    - Mentoring
    - Podcasts
Dear 4-H Volunteer,

In two days, you will receive an email inviting you to participate in a study on adult learning. You are being asked to participate by filling out a 10-15 minute questionnaire. Completion of this questionnaire will help LSU Ag Center 4-H professionals, adult educators and instructors better understand the readiness of adults to engage in learning throughout life (lifelong learning).

Your participation is vital to the success of this study. Your participation is completely voluntary. Your responses will remain strictly confidential and you will not be identified in any way in the final reports.

Please feel free to contact us if you have any questions about this study. Thank you in advance for participating in this study.

Sincerely,

Kenneth Kungu
Doctoral Candidate
School of Human Resource Education
Louisiana State University
kkungu1@tigers.lsu.edu
225.287.1002

Krisanna Machtmes, PhD
Associate Professor
School of Human Resource Education
Louisiana State University
machtme@lsu.edu
225.578.7844

Janet Fox
Professor & Associate Department Head
4-H Youth Development
Louisiana State University AgCenter
jfox@agcenter.lsu.edu
225.578.6751
APPENDIX D
SURVEY FIRST LETTER
Dear 4-H Volunteer

In recent years, there has been an increase in studies aimed at understanding adult engagement in learning, especially post-compulsory schooling. I am conducting a study on adult learning that will help LSU Ag Center 4-H professionals, adult educators and instructors better understand the readiness of adults to engage in learning throughout life (lifelong learning).

You have been selected to participate in this study because of your volunteer service with the state 4-H Youth Development Program. As a 4-H volunteer and adult learner, your unique perspective and opinions are valuable to this study.

Your help is needed by filling out a Web-based questionnaire which will take approximately 10-15 minutes to complete. Participation in this study is completely voluntary and your responses will remain strictly confidential.

By completing this survey, you are agreeing to participate in this study. If you have any concerns or questions about your rights as a participant, please contact Robert C. Mathews, Institutional Review Board Chairman, LSU at (225) 578-8692 or irb@lsu.edu.

If you prefer responding to a paper-based questionnaire, I would be glad to mail you one if you emailed me your physical address at kkungu1@tigers.lsu.edu.

Thank you for your assistance with this study. Feel free to contact us if you have any questions or concerns.

Sincerely,

Kenneth Kungu
Doctoral Candidate
School of Human Resource Education
Kkungu1@lsu.edu
225.287.1002

Krisanna Machtmes, PhD
Associate Professor
School of Human Resource Education
Louisiana State University
machtme@lsu.edu
225.578.7844

Janet Fox, PhD
Professor & Associate Department Head
4-H Youth Development
Louisiana State University AgCenter
jfox@agcenter.lsu.edu
225.578.6751
APPENDIX E

SURVEY FIRST REMINDER
Dear 4-H Volunteer,

A Web-based adult learning questionnaire was emailed to you last week. It is for a study aimed at helping 4-H/Ag-Center professionals, adult educators and instructors better understand the readiness of adults to engage in learning throughout life. As a 4-H volunteer and adult learner, your unique perspective and opinions are valuable to this study.

Please accept my sincere gratitude if you have already completed the questionnaire.

If you have not completed the survey, please do so today by clicking on the link below. It will only take 10-15 minutes of your time. Participation in this study is completely voluntary. Your responses will remain strictly confidential.

If you prefer responding to a paper-based questionnaire, I would be glad to mail you one if you emailed me your physical address at kkungu1@tigers.lsu.edu. Please feel free to contact me if you have any questions or concerns.

By completing this survey, you are agreeing to participate in this study. If you have any concerns or questions about your rights as a participant, please contact Robert C. Mathews, Institutional Review Board Chairman, LSU at (225) 578-8692 or irb@lsu.edu.

COMPLETE THE SURVEY BY CLICKING ON THE LINK AT THE END OF THIS EMAIL.

Thank you for your assistance with this study.

Sincerely

Kenneth Kungu
Doctoral Candidate
School of Human Resource Education
Kkungu1@tigers.lsu.edu
225.287.1002

Krisanna Machtmes, PhD
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Janet Fox
Professor & Associate Department Head
4-H Youth Development
Louisiana State University AgCenter
jfox@agcenter.lsu.edu
225.578.6751
APPENDIX F

SURVEY SUBSEQUENT REMINDERS
Dear 4-H Volunteer,

Your participation is still needed in a 10-15 minute Web-based adult learning questionnaire. Please accept my sincere gratitude if you have already completed the questionnaire. If you have not, please do so by clicking the link at the end of this email.

As a 4-H volunteer and adult learner, your unique perspective and opinions are valuable to understanding the readiness of adults to engage in learning throughout life. Your participation is vital to the success of this study.

Participation in this study is completely voluntary and your responses will remain strictly confidential. If you prefer responding to a paper-based questionnaire, please email your physical address to kkungu1@tigers.lsu.edu. Please feel free to contact us if you have any concerns.

By completing this survey, you are agreeing to participate in this study. If you have any concerns or questions about your rights as a participant, please contact Robert C. Mathews, Institutional Review Board Chairman, LSU at (225) 578-8692 or irb@lsu.edu.

Sincerely,

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Janet Fox  
Professor & Associate Department Head  
4-H Youth Development  
Louisiana State University AgCenter  
jfox@agcenter.lsu.edu  
225.578.6751
APPENDIX F

PERMISSION TO USE SDLRS QUESTIONNAIRE
from Murray Fisher <m.fisher@usyd.edu.au>
To Kenneth Kungu <kkungu1@lsu.edu>
Date Tue, Sep 23, 2008 at 6:17 PM
Subject RE: self-directed learning readiness scale

Kenneth

I have attached the scale for your use. Could you please let me know how you intend to adapt the scale for use.

Regards

Murray Fisher
Associate Dean (Academic)
Senior Lecturer
Faculty of Nursing and Midwifery (MO2)
University of Sydney
Ph: +61 2 93510587
Fax: +61 2 93510654

Original Message

Hello Dr. Fisher,

I am writing to request a copy of your self-directed learning readiness scale to consider using it in my dissertation study.

I am a doctoral candidate at Louisiana State University's School of Human Resource Education and Workforce Development. I have began work on my dissertation with my tentative topic being "Assessing Lifelong Learning Readiness". My goal is to develop an instrument for assessing lifelong learning readiness that incorporates readiness to respond to triggers for learning, self-directed learning readiness and readiness to overcome deterrents to participation in learning.

Since self-directed learning readiness has been studied extensively and its measures developed, I was looking to use one already established measure for it. With permission from the author(s) of such a measure, I am looking to use parts of the self-directed learning readiness instrument in the lifelong learning readiness instrument as it would fit my study purposes. I am thus writing to request that you kindly consider sending me your instrument and allow me to use it either in its entire form or if need be in an edited form in the self-directed learning readiness part of the instrument that will result from my study. I will be careful to give credit for all parts of your instrument that I end incorporating in my study, if such permission is granted.

Thank you for your kind consideration and any help will be highly appreciated.

Regards,

Kenneth Kungu, Doctoral Candidate, Louisiana State University, School of Human Resource Education
VITA

Kenneth Kimani Kungu is the oldest son of Patrick K. Kimani and Alice N. Kimani. He was born in Kisumu City in Kenya. He earned his Bachelor of Arts degree from Egerton University in Nakuru, Kenya, in 2001 and his Master of Science in human resource and leadership development from Louisiana State University in 2005. He also has had professional training in human resource management from the Kenya Institute of Management and management information systems from the Kenya School of Professional Studies. The degree of Doctor of Philosophy will be conferred by Louisiana State University at the May, 2010, Commencement Ceremony.

Prior to joining Louisiana State University for graduate studies he had worked with Avenue Group and Aga Khan Hospital, both located in Nairobi, Kenya. He is a member of the African Studies Association, American Association of Adult and Continuing Education, American Educational Research Association, Gamma Sigma Delta Honor Society, and the International Society for Self-Directed Learning.