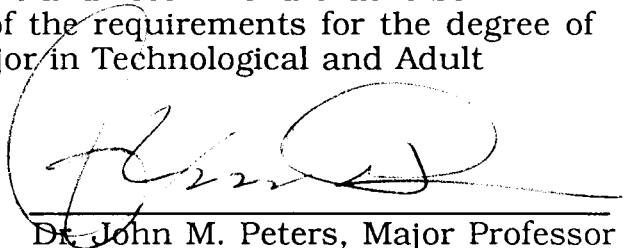


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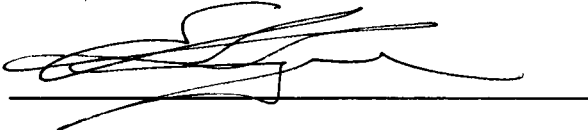


Dr. John M. Peters, Major Professor

We have read this dissertation
and recommend its acceptance:



Prof. E. Garman



Ralph G. Brackett

Accepted for the Council:



Associate Vice Chancellor
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**A STUDY OF THE MOTIVATIONAL ORIENTATIONS
OF AUTODIDACTIC ADULT LEARNERS**

**A Dissertation
Presented for the
Doctor of Education
Degree
The University of Tennessee, Knoxville**

**Martha H. Kreszock
December, 1993**

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DEDICATION

This dissertation is dedicated to my parents,

John David Hudson, Sr.

and

Annie Brumfield Hudson

You taught me from the beginning the value of education.
And when at the age of 40 I said
"I'm going back to school, again,"
you were there for me, again.

Thank you.

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ABSTRACT

Boshier's Education Participation Scale (EPS) was used to determine the motivational orientations of a group of self-directed learners participating in the autodidactic activity of audiocassette program use. Orientations were examined for statistical differences on the basis of gender, age, educational level, and participation or nonparticipation in formal education activities. Orientations were further compared to those of subjects from a large dataset compiled by the author of the EPS.

One hundred and seven respondents completed the EPS in terms of the audiocassette activity. Fifty-eight of these respondents also completed a second copy of the EPS in terms of their formal education activities. Audiocassette users primarily exhibited reasons of Cognitive Interest and Professional Advancement. No differences were found for gender or age variables. Certain levels of education were related to motivational orientation for two factors, Educational Preparation and Family Togetherness.

Subjects exhibited the same pattern of orientations toward both audiocassette and formal activities, but differed in terms of the strength of the individual orientations toward each type of activity. Cognitive Interest and Professional Advancement were the primary orientations toward both types of activities. Orientations did not differ on the basis of participation or nonparticipation in formal activities.

When compared to subjects in the EPS author's dataset, audiocassette users exhibited two of the four primary orientations of

the dataset subjects. Cognitive Interest, the primary orientation for both the audiocassette and formal participants, was the third strongest orientation for dataset subjects. Educational Preparation was a stronger orientation for dataset subjects than for audiocassette or formal participants.

It was concluded that participants may exhibit more than one orientation toward an activity, and may exhibit the same orientation toward both autodidactic and formal activities. Autodidactic and formal participants appear to be more alike than different when measured in terms of motivational orientations. The question of the relationship of gender and age variables to motivational orientations was left open. Results suggested that there may be a relationship between type or level of education and the motivational orientations of autodidacts.

Implications for further research and for adult education practice are cited.

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CHAPTER ONE

INTRODUCTION TO THE STUDY

Introduction

Researchers have a continuing interest in adults' reasons for participation in adult education activities. This interest stems from the assumption that adult learners bring with them certain needs which can be met by adult educators. Knowledge of motivations underlying participation informs the programs, content, method, and marketing strategies of adult educators.

The majority of research on participation has focused on formal learning activities, but there has been increased interest as well in participation in self-directed learning activities. Self-directed learning has been studied both as a trait of the learner and as a process of learning. When studied as a process, it may be further categorized by the context within which it occurs; whether in a "formal" setting such as an institutionally or organizationally sponsored and directed activity, or an activity occurring outside of a formal, institutional setting. The latter type of educational activity, known as "autodidaxy", was the context from which the population for the present study was selected.

Many adults participate in both formal education activities and autodidactic learning activities. Candy (1991) has raised the question as to the possible link between participation in the two types of activities. Although implied by some studies (Borgström and Olofsson,

1983; Borgström, 1985; Pipke, 1983; Dickinson & Clark, 1975), it is not known what connection, if any, exists between the two.

Motivational orientations research examines participation in terms of clusters of reasons underlying the act of participation in educational activities. The purpose of this study was to explore reasons for participation in autodidactic learning activities by identifying the motivational orientations of autodidacts as measured by the Education Participation Scale (EPS) (Boshier, 1982). The orientations were examined for statistical differences on the basis of gender, age, highest educational level, and the subjects' participation or nonparticipation in formal educational activities. Finally, the orientations of the group were compared to the orientations of a masterfile of subjects toward formal education.

Conceptual Framework

The concept of motivational orientations suggests that there are fundamental ways in which adults view their involvement in learning (Dickinson & Clark, 1975). Earliest evidence was provided by Houle (1961) when he found three dominant attitudes toward learning, or "orientations," as he called them, among a group of continuing learners. Goal-oriented learners participated with a specific purpose or objective in mind; activity-oriented learners participated for the activity itself; and learning-oriented learners pursued knowledge for its own sake. Subsequent research (Sheffield, 1964; Burgess, 1971; Boshier, 1971; Sovie, 1972/1973) expanded Houle's typology to include as many as

eight possible orientations toward learning, commonly referred to as motivational orientations.

One researcher who has continued Houle's original line of study is Boshier, recognized for his factor analysis of Houle's typology and development of a participation scale. The EPS measures the motivational orientations of adult education participants. The original version (Boshier, 1971) was recently revised to reflect seven factors, or orientations, including Communication Improvement, Social Contact, Educational Preparation, Professional Advancement, Family Togetherness, Social Stimulation, and Cognitive Interest (Boshier, 1991).

Boshier's work is grounded in the humanistic psychology of Maslow (1954, 1970), whose theory of human motivation proposed a hierarchy of needs thought to be common to each individual. Central to Maslow's theory was the notion that higher level needs, those dealing with the psychological aspects of the person, cannot be satisfied until lower level needs, those physiological and social, have been met. Boshier (1971) characterized people as either growth-motivated, that is, having satisfied the lower level needs and focusing on the higher level psychological needs; or deficiency-motivated, that is, engaged in meeting the lower level needs as identified by Maslow. He later expanded his model to incorporate the notion of congruence (Boshier, 1973). He confirmed that high incongruence scores, associated with deficiency motivations, were more likely to lead to dropout.

In a 1977 study Boshier again turned his attention to the motivational orientations of participants as he attempted to link growth

and deficiency motives with EPS factors and socioeconomic variables. While EPS factors were not found to be purely indicative of growth or deficiency motivations, Boshier did confirm the usefulness of motivational orientations research as an approach to studying the phenomenon of participation. Numerous subsequent studies have utilized the EPS among a number of populations. Factor analysis and scoring considerations have led to several revisions of the instrument. Boshier (1991) produced a seven-factor version which was inductively derived from adult education participants. It is the most recent version and was employed in the present study.

It has been suggested that motivational orientations may not be consistent throughout one's life; they may change over time (Houle, 1961, 1988; Cross, 1981; Westbrook, 1990). Further, a participant may exhibit a combination of orientations at a given point in time (Courtney, 1992). This may be a function not only of the psychological aspects of the person, but of the context within which participation occurs as well.

The adult education knowledge base includes the study of adult learning occurring both within and outside of formal educational settings. Some have argued that deliberate adult learning occurring outside of a formal educational setting (autodidaxy) should be studied separately from other forms of self-directed learning (Candy, 1987/1988, 1991). Other models, such as Brockett and Hiemstra's Personal Responsibility Orientation (PRO) model (1991) take a more inclusive view, incorporating both learner characteristics and the process of self-directed study as a way of exploring self-directed learning.

While much of the research on participation in adult education has focused on participation in formal instructional settings, increased interest in self-directed learning has led some researchers to explore the connection between participation in a formal setting and autodidactic activities. Dickinson and Clark (1975), using Houle's (1961, 1988) three learning orientations, distinguished between self-education (self-planned and managed) and continuing education (externally planned and managed). They found evidence that different orientations may have varying effects on participation in learning activities. They also concluded that the utility of motivational orientations as predictors of participation in different types of learning activities should be studied further.

Given the possible motivational orientations which may be exhibited toward learning as identified by Boshier, and the distinction between adult education pursued either institutionally or autodidactically, it may be that participants in both forms of adult education share similar orientations. To date, motivational orientations research has focused primarily on participation in formal education activities. This study sought to extend this particular research approach to include studies of autodidactic learners so that comparisons might be made in terms of the motivational orientations of participants in both formal education activities and autodidactic activities. The discovery of similarities or differences may yield insight into the question of what, if any, connection exists between participation in formal education and participation in autodidactic learning activities.

Questions explored in this study included:

1. What are the motivational orientations of adults who participate in autodidactic learning activities?
2. Do the motivational orientations of adults who participate in autodidactic learning activities differ on the basis of gender, age, or highest educational level attained?
3. Do the motivational orientations of adults who participate in autodidactic learning activities differ from their motivational orientations when they participate in formal learning activities?
4. Do the motivational orientations of autodidactic learners who also participate in formal learning activities differ from the motivational orientations of autodidactic learners who do not participate in formal learning activities?

Significance of the Study

This study is significant for four reasons. First, it extends the use of a particular psychometric instrument, the EPS, to include adults who choose autodidactic learning activities. It provides the opportunity to assess the usefulness of motivational orientations research in general, and EPS factors specifically, to describe a particular segment of the population of adult learners.

Second, by identifying the motivational orientations of these autodidacts, the study extends current research on the psychological correlates related to participation in adult education. It allows for increased understanding of the reasons underlying participation in this

particular type of activity. Third, beyond the identification of these reasons, the study compares the motivational orientations of autodidacts and those who pursue formal education activities. The design and instrumentation of the study allows for such comparison both among this particular group of autodidacts in terms of their own activities, and between this group and formal participants whose orientations have been measured in previous administrations of the EPS.

It has been suggested that autodidacts may not differ psychologically from other adults participating in formal education activities (Pipke, 1983, Candy, 1991). For a fourth reason then, this study is significant. It provides insight into what differences, if any, may exist between these learners. Increased understanding of adult learners in different educational contexts provides adult educators the opportunity to better assist in meeting the educational needs of these adults in whatever setting they select for these pursuits.

Limitations

The limitations of this study were:

1. The study focused on the activity of autodidactic learning; no judgments were made as to the nature or quality of the learning which occurred.

2. Selection of the population and sample was limited to those learners pursuing a particular type of autodidactic activity, the use of audiocassette materials. Further, the population and sample were

limited to those selecting “personal growth and development” audiocassette programs. This limitation was imposed to ensure that subjects were responding to an activity of an instructional nature.

3. The interpretation of the motivational orientations of the autodidacts in this study was limited to that which is measured by the Educational Participation Scale.

Glossary

The following terms were used in the study and should be defined at the outset.

1. Autodidaxy - “the individual, noninstitutional pursuit of learning opportunities in the ‘natural societal setting’ .” (Candy, 1991, p. 23)

2. Formal adult education - an educational offering which meets at least once as a group; has a teacher, leader, or facilitator; and is organized and sponsored by an organization or an institution. It may be offered either for credit or noncredit.

3. Motivational orientation - a view of one’s involvement in learning, a combination of factors or reasons underlying a person’s participation in educational activities. The study of motivational orientations is one research approach which has been employed to study the phenomenon of participation in adult education.

4. Self-directed learning - a process or method of study whereby the learner assumes primary responsibility for the planning, implementation, and evaluation of learning.

Organization of the Study

Chapter One has provided an introduction to the purpose and nature of the present study. The conceptual framework was presented to establish the basis from which four questions were explored. The significance of the study was discussed, followed by notation of the limitations of the study and a glossary of terminology used in the study.

A review of the literature concerning motivational orientations research and a particular form of self-directed learning, autodidaxy, is presented in Chapter Two. The concluding section discusses definitions and demographic variables which were included in the study.

Chapter Three presents the methodology employed in the study. Selection of the population and sample, instrumentation, and data collection and analysis procedures are discussed.

Chapter Four presents results and discussion of the data analysis. Chapter Five provides a synopsis of the study and presents conclusions and implications for practice and future research.

CHAPTER TWO

REVIEW OF THE LITERATURE

Introduction

This chapter presents literature dealing with the strand of inquiry known as motivational orientations research. The origins of motivational orientations research are traced back to the work of Houle (1961). The chapter presents several instruments which were developed to examine motivational orientations, including the Education Participation Scale (EPS) (Boshier, 1982, 1991), which was used in the present study. The conceptual foundations on which Boshier based his work are also presented.

The study was designed to identify the motivational orientations of a group of adults who were participating in an autodidactic educational activity, the use of audiocassette programs. This chapter presents literature concerning the study of self-directed learners and autodidactic learners. The chapter concludes with a discussion of the definitions and demographic variables selected for inclusion in the study.

Participation and Motivational Orientations Research

Learners select adult education activities from among many which compete for their attention. The voluntary nature of adult

education has led researchers to attempt to understand why a learner chooses adult education activities over other activities which compete for his or her time.

Long (1983) identified two types of adult education participation studies. The first he referred to as census or self-report research; the other he referred to as analytical research. Census or self-report research sought to explain the relationship between participation and a number of external characteristics such as age, gender, race, income, educational level and other variables. In addition to demographic data, respondents were also asked to give reasons why they participated or to select their reasons from lists furnished by the researchers. Perhaps the most frequently cited of this type of study was that done by Johnstone and Rivera (1965). Merriam and Caffarella (1991) noted that the Johnstone and Rivera study provided a profile of the typical adult learner which has served as a "baseline" for comparison by later participation studies.

The National Center for Education Statistics (NCES, 1974) produced census-type participation research on an annual basis, and studies by Carp, Peterson, and Roelfs (1974) and Aslanian and Brickell (1980) continued the census/self-report trend. Merriam and Caffarella (1991) found that differences in sampling and data collection methods resulted in varying participation rates in these studies, yet they yielded a highly consistent picture of the typical adult education participant.

Long described the second type of participation research, analytical research, as that which:

reflects a concern for deeper psychological motives and explanations that may not be readily apparent in the comments of the respondents in the studies. Additional statistical analysis, including factor analysis, is often used to derive clusters of reasons or orientations that help explain participation at a deeper level. (1983, p. 84)

The following section discusses early work in this area of inquiry.

Early Motivational Orientations Research

Earliest among those researchers focusing on the internal and personological aspects of adult education participants was Houle (1961, 1988). Houle called for study of the participant rather than study of the act of participation itself. Examining a group of continuing learners' attitudes toward continuing education, he found basic similarities among his subjects. All were deeply engaged in learning, tended toward high levels of participation in educational activities, had goals which they wished to achieve, enjoyed the process of learning, and felt that learning was worthwhile for its own sake.

Houle found differences in terms of his subjects' major conceptions about the purposes and values of continuing education. He identified three "orientations toward learning" among his subjects. Goal-oriented learners appeared to be engaged in learning for a specific purpose or objective. Rather than seeking specific educational objectives, activity-oriented learners were participating for the activity itself and for social purposes. Learning-oriented subjects viewed their educational activities as a means rather than an end; they pursued knowledge for its own sake.

Houle's work served as a cornerstone for subsequent research on both self-directed learning and participation in adult education activities. Reynolds (1985/1986) noted that Houle's study provided a usable theoretical typology for researchers as they attempted to organize reasons for participation. Thus began a line of research which represented movement beyond description toward further understanding of the psychological characteristics of adult learners. Motivational orientations research defines participation in terms of personality traits which are within the individual prior to the act of participation. Motivational orientations are seen as "attempts to account for the origin of learning need, rather than the factors governing the actual decision to participate" (Courtney, 1992, p. 54).

Just after the publication of Houle's work, Sheffield (1962/1963, 1964), drawing from the Houle typology, constructed a list of fifty-eight reasons that adults enrolled in adult education classes. Sheffield's Continuing Learning Orientation Index (CLOI) became the first of three psychometric instruments which were eventually developed to study motivational orientations. Sheffield identified five factors, which he referred to as "learning orientations." The five orientations, which included (a) the Learning Orientation, (b) the Desire-Activity Orientation, (c) the Personal-Goal Orientation, (d) the Societal-Goal Orientation, and (e) the Need-Activity Orientation, tended to confirm Houle's typology. Subsequent studies yielded varying numbers of orientations. Sovie (1972/1973) studied staff nurses who had participated in continuing education programs and nurses who had not participated in such programs. She used Sheffield's instrument to

identify eight learning orientations among the professional nurses. Dickinson and Clark (1975) also utilized the CLOI. They asked a group of registered nurses to respond to the instrument in terms of their reasons for participating in all learning activities. They identified seven factors among this group.

A second instrument, the Reasons for Educational Participation (REP) scale, was developed by Burgess (1971). He identified seven factors among participants in adult education programs. Grabowski (1972) used the Burgess instrument to identify seven similar factors among adult learners in a directed self-study undergraduate degree program. The REP did not receive as much use as did a third instrument, discussed in the next section.

Boshier's Education Participation Scale

The third instrument, subsequently used most often in motivational orientations research, was developed by Boshier (1971). Boshier investigated Houle's typology by constructing the forty-eight-item Education Participation Scale, which he administered to adult education participants at three institutions in New Zealand. Boshier analyzed participant responses to obtain 14 first-order factors, seven second-order factors, and four third-order factors. The first-order factors, which he labeled "motivational orientations," included (a) Social Welfare, (b) Social Contact, (c) Other-directed Professional Advancement, (d) Intellectual Recreation, (e) Inner-directed Professional Advancement, (f) Social Conformity, (g) Educational Preparedness, (h) Cognitive Interest, (i) Educational Compensation, (j) Social Sharing,

- (k) Television Abhorrence, (l) Social Improvement and Escape,
(m) Interpersonal Facilitation, and (n) Education Supplementation.

The second-order factors, which Boshier identified in an effort to enhance the interpretation of the first-order factors, included (a) Interpersonal Improvement/Escape, (b) Inner versus Other-directed Advancement, (c) Social Sharing, (d) Artifact, (e) Self-centeredness versus Altruism, (f) Professional Future Orientedness, and (g) Cognitive Interest. Because the second-order factors did not closely resemble Houle's typology, Boshier further intercorrelated the factors to yield four third-order factors, which he did not name but did describe. The first, described as "other-directed advancement," identified goal-oriented motivations which he interpreted as a response to vocational or environmental stimuli. He found the second factor to be similar to Houle's learning orientation but representing preparation for a future, likely educational, activity rather than learning as an end in itself. Boshier described his 3rd third-order factor as "a bipolar measure of 'self versus other-centredness'." He described the fourth factor as almost purely "social contact" (1971, p. 19).

Boshier's perspective was grounded within the theoretical framework of Maslow (1954, 1970). Maslow constructed a hierarchy of needs, progressing from lower order physiological needs to higher order social and psychological needs. Maslow contended that the lower order needs must be satisfied before a person could turn his or her attention to the task of satisfying the higher level needs. Boshier (1973) proposed a "congruence" model to explain participation and dropout in terms of one's self-concept and perceptions about the educational environment.

Rejecting the notion that either participation or dropout might be attributable to any single variable, Boshier theorized that both phenomena would stem from an interaction of internal psychological and external environmental variables. Participation and persistence would be a function of the fit between an adult's perceived congruence between one's self and ideal self and between one's self and the educational environment. The model also included social, psychological, and institutional variables, which Boshier identified as mediating the congruence-dropout relationship.

Boshier's model included the notion of "deficiency" and "growth" motivations among adult education participants. Growth-motivated adults, having satisfied the lower order needs as identified by Maslow, would likely be inner-directed and autonomous; while deficiency-motivated adults, engaged in satisfying lower level needs, would likely be governed more by external social and environmental determinants. Drawing from the earlier work of Rogers (1969) and the notion of congruence between one's self and one's experience, Boshier hypothesized that for deficiency-motivated adults enrollment in adult education would be associated with intra-self incongruence, a discrepancy between one's perceived and ideal self. This would lead to self-other incongruence and likely dissatisfaction with the educational environment. He also hypothesized that for growth-motivated adults enrollment would be associated with intra-self congruence and likely satisfaction with the educational environment. Boshier used an instrument known as the Personality and Educational Environment Scale (PEES) to test the congruence part of his model. He confirmed

the hypothesis that high incongruence scores were likely to lead to dropout (Boshier, 1973). Boshier suggested that incongruencies would be additive; thus the greater the number of incongruencies experienced, the greater the likelihood of nonparticipation or dropout. Cross (1981) noted that while this may have seemed an obvious insight, Boshier was the first to provide empirical evidence for the importance of matching the adult to the educational environment and the importance of the adult's self-esteem in the educational equation.

Motivational Orientations Research Continues

Interest in motivational orientations research and use of the EPS continued. In 1974 Morstain and Smart used the EPS to replicate Boshier's 1971 New Zealand study. Morstain and Smart studied students enrolled in adult education courses at a college in the United States. They concluded that reasons for participation in adult education were more complex than Houle's original three categories. Their findings extended Houle's original typology to six factors, including (a) Social Relationships, (b) External Expectations, (c) Social Welfare, (d) Professional Advancement, (e) Escape/Stimulation, and (f) Cognitive Interest. Morstain and Smart found similar EPS factor patterns in a cross-cultural context and some variations in reason for participation for different age-sex groupings.

In 1977 Boshier again turned his attention to motivational orientations, this time attempting to link growth and deficiency motivations with socioeconomic factors and factors from the EPS. The hypothesis that life-chance (deficiency-motivated) individuals would be from lower socioeconomic classes and involved in satisfying Maslow's

lower order needs and that life-space (growth-motivated) participants would be from higher socioeconomic classes and operating at higher levels in terms of Maslow's hierarchy was not conclusively confirmed. Boshier confirmed relationships between EPS factors and age and socioeconomic variables, but could not conclude that EPS factors could be used to predict deficiency and growth motivations among participants. He did conclude a relationship between motivational orientations and the psychological states as characterized by Maslow, and he encouraged continued inquiry into the motivational orientations of adult education participants.

Boshier also drew support for the utility of the EPS factors from a previous study by Haag (1976). Haag investigated whether motivational orientations could be said to relate to psychological states such as those characterized by the description of the deficiency and growth orientations. Haag correlated the six factors from the 1971 EPS with neuroticism and self-actualization measures. He assumed high levels of self actualization to be a manifestation of life-space (growth) motivation and high levels of neuroticism to be a manifestation of life-chance (deficiency) motivation. Haag found that four of the six EPS factors significantly correlated with either one or both of the psychological scores and interpreted the findings as evidence of a relationship between motivational orientations and the psychological states as characterized by Maslow.

From his and Haag's findings Boshier concluded "that motivational orientations are more than just superficial clusters of reasons for enrollment. They seem to be surface manifestations of

psychological states which are in turn probably related to psycho-social conditions in various age and socio-economic groups" (1977, p. 112). Boshier continued this line of inquiry and in 1980 reported to the Adult Education Research Conference on further efforts toward correlation of the EPS factors and psychological states. Noting that Maslow's model provided no instrument and little guidance toward operational procedures to test its validity, Boshier adopted Cattell's trait theory and the Sixteen Personality Factors (16 PF) instrument to proceed with his study. He found that the psychological correlates from the 16 PF generally supported five of the six EPS factors, and that the study further supported the construct validity of the EPS.

Reynolds (1985/1986) pursued this line of inquiry as he administered the EPS and the Self-Directed Learning Readiness Scale (Guglielmino, 1977) to a group of adult part-time community college students. He found a significant positive correlation between one of the EPS factors, Cognitive Interest, and subjects' levels of self-directed learning readiness. The Professional Advancement and External Expectations factors were negatively correlated with self-directed learning readiness.

As has been shown thus far in the literature review, motivational orientations inquiry has attributed varying numbers of "orientations" or "factors" to adult education participants. Indeed, even the terminology has varied. Houle (1961) referred to "orientations toward learning," while Sheffield (1962/63, 1964) studied what he termed "learning orientations." Boshier opted for the term "motivational orientation" because, he said, "there is no evidence to suggest the orientations

studied are in any way related to learning either inside or outside an instruction environment. The construct under investigation has motivational origins" (1976, p. 31). Boshier went on to acknowledge that different numbers of meaningful factors had been identified by different researchers; he indicated that all had found more than three factors. Indeed, Houle (1983) himself would later report at a European Conference that six orientations, although somewhat overlapping, might be identified.

In a critical review of 14 motivational orientation studies, Boshier (1977) addressed the question of the accuracy and reality of Houle's original three factors. Noting the attempts of several researchers (Sovie, 1973; Dickinson & Clark, 1975) to classify larger numbers of uncorrelated factors to fit Houle's three categories, Boshier contended that no one had conclusively established that Houle's categories were an accurate representation of participant types. "Houle's typology," he said, "is elegant and makes subjective sense, but until motivational orientation researchers develop a suitable psychometric procedure to test its validity it cannot be accepted or rejected as an accurate description of adult learners" (Boshier, 1976, p. 42).

Boshier and Collins (1985) designed a study to test Houle's three-factor typology over a large sample of adult learners from a variety of educational and geographical settings. Their stated purpose was "to examine the extent to which Houle's typology fitted the phenomenological reality that exists within adult education participants" (p. 113). Using Morstain and Smart's (1974) six factors and the EPS scores of over 13,000 learners, Boshier and Collins used

cluster analysis techniques to identify three clusters of items. Houle's goal and learning orientations emerged clearly but a third cluster, the activity orientation, was more complex than Houle's description. Of Houle's typology, Boshier and Collins noted:

The broad outlines of Houle's typology were visible in the results, but the cluster analysis shows the socially oriented items to be so well-differentiated that it would be overly-generous to say it fully taxonomizes the evidence. But Houle's intuition has been partly corroborated; two of the six clusters were as he described them. Indeed the fact the central emphasis of each orientation was discernible after combining data from Africa, Asia, New Zealand, and North America attests both to Houle's perspicacity in proposing his orientations and to the soundness of the EPS in operationalizing them. (p. 127)

The EPS has been widely used. Boshier (1991) noted that the 1976 English version was translated into Spanish, Portuguese, German, and Chinese. In 1982 the instrument was made available commercially. More recently, Boshier developed what is referred to as the A-form of the EPS (1991). The instrument was originally intended for the adult basic education population, but eventually became a more general form of the EPS. Boshier explained his development of the alternative version of the EPS as a response to the small and culturally biased set of subjects in Houle's (1961) original study and the unequal number of items in the factors, which he felt complicated scoring in the earlier version. To construct the most recent version, Boshier inductively derived the scale items from participants enrolled at a

Canadian community college. He noted that these items were derived from a heterogeneous population and emphasized that they "had nothing to do with Houle's or any other typology" (Boshier, 1991, p. 151).

The A-form of the EPS consists of forty-two items, which cluster into seven six-item factors. These include: (a) Communication Improvement, (b) Social Contact, (c) Educational Preparation, (d) Professional Advancement, (e) Family Togetherness, (f) Social Stimulation, and (g) Cognitive Interest.

The Communication Improvement factor is composed of items which suggest a desire for improvement of either written or oral communications. The factor includes such items as "to speak better," "to write better," and "to help me understand what people are saying and writing." In addition, two of the six items within this factor, "learning another language" and "learning about customs here," could be associated with cultural acclimation. This factor emerged in Boshier's most recent version of the EPS; it had not appeared in previous factorings.

The Social Contact factor reflects enrollment for reasons associated with meeting people and making friends. Items such as "to become acquainted with friendly people" and "to meet different people" suggest pursuit of the activity for the sake of the activity itself rather than the particular content. Items comprising the third factor, Educational Preparation, reflect enrollment for more pragmatic goals. Items such as "to make up for a narrow previous education" and "to prepare for further education" suggest remediation of past

educational deficiencies or preparation for further or specialized education.

The Professional Advancement factor might also be considered a manifestation of more practical goals. Items such as "to secure professional advancement," "to get a better job," and "to increase my job competence" reflect expectations of very specific outcomes from the educational activity. Smith (1984) suggested a strong flavor of competition in this particular factor.

The fifth factor, Family Togetherness, also emerged for the first time in the most recent version of the EPS. It is interesting to note that Capozzoli (1987), using a prior version of the EPS, observed that the instrument contained no items about the influence of family. The topic had emerged in qualitative interviews which he had conducted with some of his subjects. While the title of this new factor would seem to indicate a more social orientation, items such as "to keep up with others in my family" and "to answer questions asked by my children" suggest preparation for interaction with family and friends, rather than actually spending time with them. Boshier (1991) described this new factor as concerned with the improvement of family relationships and perhaps the bridging of generation gaps.

Due to the similarity of names, careful reading of the items comprising the Social Stimulation factor is necessary to distinguish it from the Social Contact factor. Items such as "to overcome the frustration of day to day living" and "to get a break in the routine of home or work" suggest an element of escape. Smith (1984) noted that a similar factor, termed "Escape/Stimulation" appeared in Morstain and

Smart's (1974) and Boshier's (1977) earlier factorings. The factor first appeared in the 1982 version of the instrument under the current name.

The final factor, Cognitive Interest, was present in Boshier's 1971 factoring, and has been included in all subsequent versions of the EPS. Such items as "to get something meaningful out of life," "to seek knowledge for its own sake," and "to learn just for the joy of learning" make this factor quite similar to Houle's original "learning-oriented" category.

As noted, the EPS has received wide use. Motivational orientations research continues to be of interest to adult education researchers, thirty years after Houle's (1961) early work. The next section presents some caveats concerning this line of inquiry.

Criticisms of Motivational Orientations Research

Motivational orientations research has not been without critical scrutiny. Cross (1981) noted that while Houle's typology implied consistent motivational orientations throughout one's life, the Morstain and Smart (1974) factors allowed for a number of reasons for participation and for changes in motivation throughout the course of one's life. Merriam and Caffarella (1991) summarized a review of motivational orientations research with acknowledgement of the complexity of learners' reasons for participation and the notion that the reasons are likely to change over time. Indeed, Boshier earlier noted that "the amount of motivation that has life-chance and life-space origins changes as persons increase in age and accomplish

developmental tasks appropriate to their culture and social situation” (1977, p. 93).

Long (1983) questioned Boshier at the theoretical level. Long contended that Boshier’s suggestion that motives for growth-motivated individuals are heterostatic in nature is in conflict with the psychological literature, which contends a homeostatic nature to behavioral strategies. It should be noted that in his discussion of his theory in terms of homeostasis and heterostasis, Boshier acknowledged that all motivational orientations might be considered homeostatic. He stated:

All of our “motivational orientations,” it could be contended, are homeostatic in nature. It is admitted that, in moving from the intra-organic to the social level, a considerable gap in logic has to be bridged because we are no longer dealing with a single action system but relations between an individual and a large system (family, community, other class members, etc.). (Boshier, 1971, p. 20)

Long noted that this conflict as he perceived it did not directly invalidate the congruence theory, but rather emphasized the need for further and more precisely defined research.

Courtney (1992) questioned the direct relationship between motivational orientations and participation in adult education. He contended that not only those studies using Boshier’s EPS, but also those using Sheffield’s Continuing Learning Orientation Index and Burgess’s Reasons for Educational Participation Scale, did not directly measure participation. He pointed out that the studies varied in terms

of indicators of participation, that orientations differed among groups, and that individuals were frequently found to exhibit more than a single dominant orientation. Following a review of several studies correlating motivational orientations and participation (Sheffield, 1962/1963, 1964; Bennet, 1968/1969; Burgess, 1971; Sovie, 1972/1973; Morstain & Smart, 1974; Dickinson & Clark, 1975; Boshier, 1977; Boshier & Collins, 1985), Courtney concluded that "the evidence suggests that a majority of participants are characterized by more than one orientation, and that it is combinations of orientations rather than dominant orientations taken separately which have the greatest power in predicting participation in adult education" (1992, p. 79).

Indeed, in constructing his original typology, Houle acknowledged that there would be no simple answer to explain participation in adult education. Of the three categories he said, "These are not pure types; the best way to represent them pictorially would be by three circles which overlap at their edges" (Houle, 1961, p. 16). He went on to observe:

At the end, as at the beginning, we realize that we must ask "whys?" not "why?" Probably we shall never get at all the facts, though further research should give much clearer answers. Each person is unique and his actions spring from a highly individualized and complex interaction of personal and social factors. (p. 80)

Reynolds (1985/1986) noted that the issue of the permanence of a dominant motivational orientation was actually part of a larger question, that of whether there may be differing psychological and

experiential antecedents associated with different motivational patterns.

As has been shown thus far in this review of the literature, the bulk of participation research, including motivational orientations research, has focused on participants in organized, often institutionally-sponsored, adult education activities. Yet, just as an adult may exhibit more than one orientation, so may he or she also be studied in more than one learning context. When addressing the phenomenon of participation in adult education and considering the motivational orientations of adult learners, it is important to identify the context in which the learning occurs. Adult education researchers have developed a growing interest in the phenomenon of self-directed learning and activities pursued beyond the confines of organized educational activities. It is to this area of study that the review of the literature now turns.

Self-Directed Learning, Autodidaxy, and Formal Education Activities

Self-Directed Learning

In their national survey of adult learners, Johnstone and Rivera (1965) discovered a high incidence of self-education among their subjects and were thus among the first to advocate the need for further study of the phenomenon of self-directed learning. Tough, a student of Houle's, was one of the first to provide a comprehensive description of self-directed learning. Using interview transcripts from Houle's 1961

study to guide his thinking about the phenomenon, and using a structured interview format, Tough constructed the concept of learning projects, defined as:

a series of related episodes, adding up to at least seven hours. In each episode more than half of a person's total motivation is to gain and retain certain fairly clear knowledge and skills, or to produce some other lasting change in himself. (1971, p. 6.)

Tough's model offered the first operational definition of self-directed learning and served as the basis for a large number of subsequent studies which verified and described the phenomenon. Brockett and Hiemstra (1991), Candy (1991) and Merriam and Caffarella (1991) provided extensive lists of examples of these verification studies. The lists illustrate the variety of adult populations among which examples of self-directed learning have been found and studied. For example, Peters and Gordon (1974) conducted a large-scale study of urban and rural adults, while Coolican (1973/1975) studied the range of learning activities of mothers of young children. Among other findings, both of these studies found a high incidence of self-planned learning projects among their subjects. Hiemstra (1975, 1976) turned his attention to older adults to confirm that they are active learners, with much of the activity occurring in self-planned learning projects. Penland (1977) studied a national sample of persons 18 years or older to find a large percentage who had conducted at least one self-planned learning project in the preceding year. Leean and Sisco (1981) studied undereducated adults to find that they were aware that a great deal of their learning had occurred outside of the public

school setting, and that this learning had been both challenging and meaningful.

As noted, these are but a few studies from an extensive list. As Brockett and Hiemstra (1991) pointed out, beyond describing and verifying these learning projects, such studies have served a consciousness-raising function for adult educators, providing concrete evidence to replace what was previously based largely on intuition.

It should be noted that the newly emerging interest in self-directed learning was not in response to a new phenomenon. Kulich (1970) noted that prior to the introduction of available schooling for everyone, self-education was the way in which man coped with his world. Kulich went on to provide examples of self-learners from Greek philosophers to Benjamin Franklin. Long noted that given the limited schooling opportunities available in the New World, "there were enough self-directed learners in Colonial America for such activity to have approached fashionable dimensions" (1976, p. 9).

Just as with participation studies, as interest in self-directed learning increased, so did researchers begin to look not only at the numbers and existence of the phenomenon, but at the learners and the actual experience of being self-directed in one's learning. Brockett, Hiemstra, and Penland (1982) proposed a three-part classification scheme for organizing research on self-directed learning. Their three "streams of inquiry" included descriptive learning projects investigations, modeled on Tough's methodology; research designed to determine one's extent of self-directedness by measuring levels of

self-directed learning; and qualitative studies designed to explore the meanings and contexts of self-direction in learning.

Descriptive approaches are well documented in the literature. Research concerning the extent of one's self-directedness is characterized by Guglielmino's (1977) Self-Directed Learning Readiness Scale (SDLRS), an instrument developed to measure one's readiness for self-directed learning; and the Oddi Continuing Learning Inventory (OCLI) (Oddi, 1984, 1985, 1986), an instrument designed to measure self-directedness in continuing learning.

An early example of the qualitative stream of research was the study by Gibbons et al. (1980). These researchers focused on adults who became "expert" at some endeavor through means other than organized learning activities. They analyzed the biographies of 20 famous people to arrive at a composite picture of a self-educated adult. From their findings, they identified fourteen principles which they felt contributed to the knowledge base on self-directed learning.

Brookfield (1981) employed conversational interviews with 25 adults who also had become "expert" at some endeavor through means other than organized learning activities. Perhaps most striking among Brookfield's findings was the fact that, although attaining their expertise outside of formal settings, these adults still felt that they belonged to a fellowship of learning.

A more recent example of the qualitative approach to the study of self-directed learners was that of Cavaliere (1989). She examined historical and biographical data surrounding the Wright Brothers to study the independent learning processes which occurred during the

invention of the airplane. Brockett and Hiemstra (1991) noted that these and other qualitative studies have contributed to theory-building with respect to self-direction, and have also provided a method for studying specific segments of the larger adult population, segments perhaps previously overlooked in adult education research.

Learning projects research is credited with legitimatizing the study of adult learners outside of formal education settings. Prior to the learning projects work, adult educators, notably Verner (1964), excluded independent learners from the traditional definition of adult education (Long, 1991). As researchers studied the phenomenon of self-directed learning, a variety of concepts evolved. A number of meanings and labels were used to refer to "self-directed learning." This resulted in a conceptual confusion which, as Brockett and Hiemstra (1991) noted, several writers began to sort out in the early 1980's. Brookfield (1980) originally referred to "independent adult learning," but then adopted the term "self-directed learning" (1984). Later, somewhat recanting his earlier position, Brookfield stressed "the complex phenomenon of learning (as an internal change of consciousness)" (1988, p. 16), wherein he distinguished between a phenomenon under study and the educational setting in which it was occurring.

Merriam and Caffarella (1991) identified two perspectives from which self-directed learning has been viewed. In the previously mentioned verification studies, researchers conceptualized self-directed learning as a process. Others (Kasworm, 1983; Chene, 1983) viewed it as a personal attribute of the individual learner.

In their "Personal Responsibility Orientation" (PRO) model, Brockett & Hiemstra (1991) encompassed both the process itself and the personal characteristics of the self-directed learner. The model thus began to incorporate elements that may have contributed to the conceptual confusion surrounding self-directed learning. Brockett and Hiemstra differentiated between what they term self-directed learning, the learner's process as he or she plans, implements, and evaluates the learning; and learner self-direction, those characteristics which predispose a person to take primary responsibility for his or her learning. Linking these two ideas was the concept of self-direction in learning, which allowed for the inclusion of both the external characteristics of the instructional process and the internal characteristics of the learner.

Underlying Brockett and Hiemstra's model was the notion of personal responsibility; that is, individuals assuming ownership of their thoughts and actions throughout the process. Noting that past research had largely neglected the social dimension within which learning occurred, Brockett and Hiemstra extended the model to place it within the social context in which learning takes place.

Candy (1991) identified at least four distinct phenomena which have been termed "self-directed learning." These include self-direction as personal autonomy, self-direction as the ability and willingness to guide and direct one's own learning, self-direction as the pursuit of learning outside of an institutional context (autodidaxy), and self-direction as the acceptance of responsibility for instructional functions in a formal educational context (learner-control). By distinguishing

between self-directed learning occurring within a formal education setting and self-directed learning occurring outside of a formal education setting, Candy added a further distinction to the concept of self-directed learning. While in contrast to Brockett and Hiemstra's multidimensional approach, Candy's model further clarified the nature of the phenomenon referred to as self-directed learning. The next section deals with the realm of autodidaxy, learning outside of an institutional context.

Autodidaxy

Candy was not the first to use the term autodidaxy, nor should it be assumed that all researchers have adopted the same distinction which he drew between autodidaxy and self-directed learning. In an "Afterword" which he wrote for the 1988 reprint edition of The Inquiring Mind, Houle commented on the impact of his book on the study of self-directed learning. Houle defined self-directed study as that in which "an individual or a group accepts responsibility for designing and pursuing an educative activity" (1988, p. 92). In ancient times, he continued, this process was called autodidacticism.

Perhaps the extent of debate over terminology was best exemplified in the report on The European Expert Meeting on the Forms of Autodidactic Learning (Jankovic, 1980). This UNESCO-sponsored meeting was convened to examine "teaching methods which encourage an independent approach to learning" (p. 1). The report detailed the diverse definitions of autodidaxy offered by the participants. At the time of the meeting it was discovered that the English and French definitions from the UNESCO glossary of

terminology on adult education differed in terms of the degree of outside assistance associated with the concept of autodidaxy.

Unable to arrive at a definition on which all could agree, the delegates appointed a separate working group to explore the definitions and report their conclusions at a later session. Even this group was not able to reach agreement on a short definition of autodidaxy. Among the conclusions reached by the larger group were that a close link did indeed exist between autodidaxy and lifelong education, and that increased interest in and frequency of autodidactic activities was not to be viewed as a condemnation of the formal educational institution. In fact, the delegates agreed that there was no "pure" or "unassisted" autodidaxy (Jankovic, 1980, p. 46).

Dealing with the same issue, Candy (1990, 1991) cautioned against confusing the domain of autodidaxy with the instructional domain within an institutional setting. Some learners exhibit high levels of learner-control (as opposed to teacher-control) in instructional situations, and may seem quite similar to those learners pursuing "assisted autodidaxy" (operating outside of the instructional domain but seeking some external assistance). Candy attributed the difference to the issue of ownership, probably detectable only by the learner himself or herself. For Candy, the question became whether the learner perceived the teacher to be in control, as in the instructional domain, or whether the learner assumed ownership of the situation. The importance of distinguishing between the two domains lay in the fact that learners and assistants might actually behave differently depending upon their perception of a given situation.

The Relationship Between Autodidactic and Formal Education Activities

In a review and analysis of the literature on autodidaxy, Candy (1991) noted that numerous studies had verified and described the autodidactic activities of adults and that researchers had begun to focus on the actual learning process, the significance of the practice, and the relationship between autodidacts and their sources of assistance. Danis and Tremblay (1987, 1988) were among the researchers who approached the topic of adult learning from the perspective of the autodidactic learner. They compared established adult learning principles as identified from the literature to learning principles inferred from interviews with a group of autodidactic learners. Danis and Tremblay purposely focused on self-taught adults "so as to isolate the influence of the formal teaching environments on learning and thus permit the adult to be studied when he/she learns in a naturalistic and spontaneous fashion" (1988, p. 195).

Other studies sought to explore whether participation in formal adult education activities increased autodidactic activities or otherwise influenced self-directed learning activities. Borgström and Olofsson (1983) found that Swedish adults participating in study circles tended to strengthen their political, social, and cultural resources; and a later study by Borgström (1985) supported the notion that "a strengthening of political, social, and cultural resources would probably also imply a strengthening of participation in autodidaxy" (Candy, 1991, p. 145).

Pipke investigated the relationship between participation in formal instructional settings and what she termed the "penchant for

self-directed learning" (1983, p. 181). She administered Boshier's EPS to a group of adult educators to identify motives for participation in a formal instructional setting. She developed an instrument to measure each participant's "penchant" for engaging in self-directed learning activities, defined as spare-time activities chosen for purposes of intentional learning. Pipke found a possible relationship between penchant for self-directed learning and enrollment in formal education activities for Community Service reasons. Her hypothesized relationship between penchant for self-directed learning and participation for reasons of Cognitive Interest was not confirmed. Candy (1991) noted that while Pipke's results were somewhat equivocal, they did suggest that those who pursued autodidactic learning may not be psychologically different from those who pursued learning in formal instructional settings.

In their study of registered nurses, Dickinson and Clark (1975) examined motivational orientations within the context of two types of learning activities, self-education and continuing education. Self-education was characterized as "essentially an individual and private pursuit," while continuing education was characterized as "predominantly a group activity as several persons other than the learner are usually involved" (p. 5). Dickinson and Clark based their hypotheses on the goal, activity, and learning orientations as originally identified by Houle (1961). They hypothesized and confirmed a strong positive relationship between the presence of a learning orientation and participation in self-education activities. They also partially confirmed a strong positive relationship between the presence of a goal orientation

and participation in self-education. They found what they termed an "occupational" orientation to correlate positively with self-education while a "professional" orientation correlated negatively with the same type of activity. Dickinson and Clark concluded that the relationship between different learning orientations and participation in self-education was similar to the relationship between different learning orientations and participation in continuing education. They recommended further study to determine the utility of learning orientations as predictors of participation in different types of learning activities.

Other researchers, too, pursued motivational orientations research among learners in varying contexts. Falaki (1983) investigated the orientations of participants and nonparticipants in adult basic education classes. Nonparticipants were identified as former adult basic education enrollees. Using a six-factor version of the EPS, he found significant differences among the two groups on all six factors. Smith (1984) reported the first use of the EPS with adults who were not actually enrolled in a formal education activity. The three groups which she studied included traditional-age university students, adult university students, and a group of community adult residents not presently enrolled. (Those not presently enrolled were asked to respond to the instrument on the basis of reasons for which they might decide to attend or to return to college.) Smith focused on those EPS factors dealing with occupational concerns. Among other findings, Smith found that the adult university students scored higher on the Professional Advancement factor than did the nonenrolled community

group. She also found that female adult university students did not differ significantly from the nonenrolled females on those factors relating to occupations, careers, and professional advancement.

McKenna (1984) used the EPS to confirm differing motivations among groups of adults enrolled but participating in different types of learning activities. McKenna's subjects included adult education students enrolled in noncredit vocational and avocational classes. He found differences between the two groups on the Professional Advancement and Social Contact factors. Females in the avocational group differed from males on the Social Contact factor, with the females exhibiting higher mean scale scores.

Subscribing to Boshier's homeostatic-heterostatic view of adult learning orientations, Westbrook (1990) investigated whether an adult's initial motivational orientations might shift once enrolled in a formal program. Administering the EPS to a group of first-time and re-entry students at the beginning of their first term and again at the end of the term, Westbrook concluded that motivational orientations are indeed susceptible to change in varying degrees as adults progress through educational programs.

Candy (1991) noted that studies such as Borgström and Olofsson (1983), Borgström (1985), Pipke (1983), and Dickinson and Clark (1975) implied a connection between formal educational participation and autodidaxy. He warned, however, that there was no way of knowing if the former would lead to an increase in the latter or what impact, if any, participation in structured adult education activities may have on the quality of the self-directed learning experience. He

noted that while there was an implied relationship, the link remained unclear. Such questions led to the formulation of the questions posed in this study. A snapshot view of a group of autodidactic adult learners in terms of the motivational orientations underlying their participation in both autodidactic and formal education activities would provide a first step toward discovery of any connection which might exist between participation in the two types of educational activities.

In order to pursue this line of inquiry, it was first necessary to construct working definitions of the types of activities under discussion. The next section provides a description of the definitions chosen and the framework within which they were constructed.

Defining Autodidactic and Formal Education Activities

As was noted in Chapter One, the intent of this study was to examine the motivational orientations of autodidactic adult learners and to further explore the motivational orientations of the same group in terms of their formal learning activities. As can be seen from the review of the literature on self-directed learning and autodidaxy thus far, it is necessary to provide the reader with clear definitions of the phenomena under study.

For the purposes of this study, Candy's definition of autodidaxy was adopted. He defined autodidaxy as "self-directed learning that takes place outside of formal institutional settings" (Candy, 1991, p. 13). He further qualified it as intentional rather than incidental learning.

It should be pointed out that Candy criticized the bulk of research on self-directed learning for maintaining a positivist

perspective. He called for a reframing of research to include an interpretive perspective, one which reflects the motives, intentions, and purposes of the learner. While the methodology employed for the current study reflects a quantitative rather than qualitative approach, inquiry into the motivational orientations of autodidactic learners (as defined for this study), and whether these orientations differ in terms of autodidactic or formal education activities, would seem to be a step toward a more complete understanding of the self-directed learner. In addition, by distinguishing between autodidactic and formal education activities, this study considered the specific situational context for learning, another aspect which Candy included as critical to the study of the learner.

As a definition of autodidaxy was essential to this study, so was there a need to communicate to both the participants and the readers of the study exactly what would be considered "a formal adult education activity." Candy's review of the literature on autodidaxy yielded several components which served as a starting point in constructing the definition for this particular study.

As noted, Danis and Tremblay (1988) selected their self-taught experts in an effort to isolate the influence of a formal teaching environment. Adopting criteria utilized by Brookfield in a 1982 study, they selected adults who were socially viewed as experts in a particular field of learning but who had not acquired the knowledge or skills associated with their expertise through school or at work. Danis and Tremblay characterized the acquisition of these skills as having occurred outside of an educational system. Penland (1977), in a study

of self-planned learning, defined formal learning as participation in "a course-like activity of a sequential nature where content and sequence are largely determined by one or more persons (e.g. teacher) not involved as participants" (p. A-21). Spear and Mocker (1984) defined formal learning as "an activity organized and conducted by an institution or agency" (p. 1). From these three studies came the first component of the definition of a formal adult education activity as defined for the purposes of this study. Such an activity was deemed to include some type of institutional affiliation, not necessarily academic.

In the same vein as Penland's (1977) reference to sequencing and content determined by persons not involved as participants, Dickinson and Clark (1975) had earlier distinguished between self-education and continuing or adult education on the basis of planning. In their definition, continuing or adult education involved the presence of someone other than the learner who planned and managed the learning process. The presence of a teacher-like figure was also evident in the Spear and Mocker (1984) study. Spear and Mocker observed that the organizing of formal instruction was "invariably in the hands of a person who already has command of the subject matter . . . and has learned the subject matter under, and usually has command of, a formalized and systematic process designed specifically to transfer information from one person to another" (p. 3). From these three studies came the second component of the definition of a formal adult education activity as defined for this study. Such an activity must have occurred under the direction of a teacher or leader.

The third and final component of the definition of a formal adult education activity emerged from the Dickinson and Clark (1975) study, where continuing and adult education was characterized as a group activity. Thus, for the purposes of this study, a formal adult education activity was defined as one offered by an institution or agency, directed by a teacher or leader, and conducted primarily within a group setting.

Subjects for the study were selected on the basis of participation in a specific educational activity, the use of audiocassette programs. Based on the selection criteria, it was assumed that they were exhibiting "autodidactic" behavior, although there was no way of knowing if they were operating as "pure" autodidacts. Kasworm's (1988) study of self-directed learning within an institutional context shed further light on the relationship between autodidaxy and the instructional domain. She argued that self-directed learning is a continuum of which independent learning is but one component. Studying self-directed learners in credit-seeking activities, she viewed the selection of a formal course as part of a larger learning project. An assumption of the current study was that the use of audiocassette programs, defined as an autodidactic learning activity, is one manifestation of self-directed learning. Because the participants were preselected into the study on the basis of this particular activity, and because no inquiry was conducted as to their perceptions regarding the instructional and autodidactic domains, they may not necessarily have met the criteria for autodidacticism as defined by Candy (1990, 1991). Distinguishing between autodidactic and formal education activities as

defined for this study, however, provided a mechanism for the study of motivational orientations in different educational contexts.

From the time of the earliest census-type studies on participation, researchers included a variety of demographic variables in their studies. Long listed as many as ten variables which frequently appeared in participation studies, and noted that researchers seemed "almost preprogrammed" to look at age (1983, p. 88). He also pointed out that since the emergence of educational attainment as an important variable in the Johnstone and Rivera (1965) study, adult education researchers have traditionally included this variable in their studies.

Boshier and Collins (1982) found that "life cycle" variables such as age, sex, marital status, and number of children; and "socio-economic" variables such as occupation and income, were frequently included in motivational orientations research. Previous participation in adult education and enrollment for credit or noncredit were frequently included in such studies as well.

Reynolds (1985/1986) selected a number of variables for his study of the self-directedness and motivational orientations of adult part-time students at a community college. He treated gender, age, and educational attainment as particularly significant demographic characteristics because of their traditional link to the EPS and the Self-Directed Learning Readiness Scale, the two instruments he used in his study. Based on his emphasis and their inclusion in several other studies, the variables of gender, age, and educational level were selected for inclusion in the present study.

Summary

This chapter provided an overview of motivational orientations research, a line of inquiry which attempts to address the psychological and personological characteristics of the adult learner. Concepts associated with self-directed learning were discussed and the notion of the autodidactic learner was addressed. Although as Candy (1991) suggested, some studies have implied a connection between autodidactic and formal education, there is little evidence as to what links may exist. The review of the literature supported further study of the adult education participant in terms of motivational orientations in different educational contexts.

The chapter concluded with a discussion of the definitions and demographic variables selected for inclusion in this study. The next chapter details the methodology employed to implement the study.

CHAPTER THREE

METHODOLOGY

Introduction

The study examined the motivational orientations of adults who pursued autodidactic learning activities. This section describes the procedures employed for the study, including population and sample selection, instrumentation, and data analysis.

Population and Sample

The population consisted of purchasers of commercially-prepared audiocassette programs. Nightingale-Conant Corporation, a company which produces and distributes personal and professional development audiocassette programs, made available a mailing list of selected names and addresses of customers who had purchased a predetermined combination of their programs.

Criteria for inclusion on the list which identified the population for the study included purchase of at least three of Nightingale-Conant's audiocassette programs. The assumption was made that those who selected a variety of content areas in their purchases would better represent learners who are comfortable with the audiocassette program as a format for learning. The first program, The Psychology of Winning, was selected for inclusion because it is one of the largest selling of

Nightingale-Conant's products. The second, Insight, was selected because it is purchased on a subscription basis, thus users receive new content material on a regular basis. A third program, Vocab, a vocabulary building program, was selected in order to represent a wider content area.

The researcher was furnished with a list of names which had been randomly selected from among the purchasers of the three programs. The 214 people whose names appeared on this list served as the sample for the study.

Instrumentation

The Education Participation Scale (EPS) (Boshier, 1982) is a questionnaire designed to measure the motivational orientations of adult education participants. The original version, developed by Boshier in the late 1960's, consisted of 48 items. It was later modified into a 40-item scale and has since been modified into a 42-item version, referred to as the A-form. For each item the respondent is asked to choose from a four-point scale for which "no influence" receives one point, "little influence" receives two points, "moderate influence" receives three points, and "much influence" receives four points. The author developed a seven-factor scoring key from a factor analysis of a cumulative data set. Based on this scoring key, the forty-two items cluster into the following factors:

1. Communication Improvement
2. Social Contact

3. Educational Preparation
4. Professional Advancement
5. Family Togetherness
6. Social Stimulation
7. Cognitive Interest

Boshier (1991) reported on the psychometric properties of the instrument as investigated in a study of 845 subjects. He reported a factor analysis of the A-form of the EPS which led him to conclude good construct validity for the instrument, based on consistently high loadings for the items and orthogonal rotation. A comparison of the A-form and an earlier version of the EPS indicated concurrent validity, and a comparison of researchers' and respondents' estimates and EPS scores indicated good predictive validity. Reliability for the instrument was reflected by coefficient alphas ranging from .76 to .91 and a mean scale test-retest coefficient of .65.

Procedures

Human Subjects Form A was submitted to the Committee on Research Participation at the University of Tennessee, Knoxville, to request permission to conduct research with human subjects. Once permission was secured, the study proceeded.

Prior to data collection, two pilot studies were conducted. For the first, students in an adult education class at the University of Tennessee were given a packet containing materials identical to those which subjects of the study would receive. The students were not

required to fill out the questionnaires, but were asked to read the directions for completion of the survey and comment on the clarity of the instructions. Afterwards, the group engaged in discussion with the researcher to suggest some changes in wording and sequence. In addition, two Knoxville residents who identified themselves as regularly listening to audiocassette programs were also given packets. They were asked to actually complete the questionnaires and to record how long it took them to complete the entire survey. Each was interviewed for comments and suggestions. Several modifications were incorporated into the final mailing as a result of the two pilot studies.

Approximately one week prior to the mailing of the survey, the president of Nightingale-Conant sent each subject a letter explaining the nature of the study and encouraging his or her participation (Appendix A). As actual data collection began, each subject was sent a mailing which consisted of a cover letter (Appendix B), a statement of informed consent (Appendix C), an Information Sheet (Appendix D), and two color-coded copies of the EPS. With the consent of the author, instructions on both copies of the EPS had been modified to indicate whether the subject was to respond in terms of the audiocassette activity or the formal education activity.

The Information Sheet queried participants regarding their use of audiocassette programs. These questions were included to ascertain that the subjects did indeed use the programs they had purchased. They were then asked to fill out the copy of the EPS labeled "Audiocassette Use" and marked with a large yellow dot. Responses were to be made in terms of their use of the audiocassette programs.

Subjects were then presented with a description of a formal education activity as defined for this study, and were asked if, in the past twelve months, they had participated in an activity which met this criteria. Those subjects who responded "yes" to this question were asked to indicate what organization or institution sponsored the activity, whether there was a teacher or leader, and whether the participants met as a group. Subjects were also asked to briefly describe the title or topic of the activity. The twelve-month time limit and the sequence of questions about the activity were included on the basis of suggestions made by Boshier (1976) in a review of motivational orientations research. He recommended that researchers measure precise and immediate motives for the most recent or a present activity, which would help ensure more reliable and valid responses from subjects.

Those subjects indicating that they had participated in a formal activity were then asked to complete a second copy of the EPS; this one labeled "Formal Education" and marked with an orange dot. These responses were to be in terms of the formal education activities the subjects had just identified.

All subjects were asked to provide their age, gender, and highest level of education attained. Participants were provided with a stamped, addressed envelope to return the materials to the researcher.

Respondents' names were not used in the data analysis. An unobtrusive system of numbering the three data collection instruments (one copy of the Information Sheet and two copies of the EPS) allowed for the identification of those subjects who did not respond to the first

mailing as well as for proper matching of respondents' scores during the subsequent data analysis.

Two weeks after the initial mailing, a reminder postcard was sent to those subjects who had not yet responded (Appendix E). Additional copies of the survey instrument were not included, but a telephone number was provided for those who needed additional copies. Two weeks later, a second postcard was mailed to subjects who had not yet responded (Appendix F). A telephone number was again provided for those who might still be willing to participate. Final analysis of data was begun two weeks after the second postcard had been mailed.

Data Analysis

The A-form of the EPS consists of 42 items which cluster into seven six-item factors. Scoring for each factor consists of summing over the responses (a number from one to four) to each of the six items identified as indicative of that factor. For each of the seven factors, the score will range from 6 to 24.

One hundred and eight packets were returned by the subjects of the study. Each was reviewed by the researcher to ensure that the subject had understood and correctly followed the instructions. Values for age, gender, and educational level, and scores for the seven factors from the "Audiocassette Use EPS" for each respondent were entered into the StatView SE+Graphics statistical package.

The responses of those participants who indicated that they had participated in a formal education activity in the past year were

reviewed to ensure that the activity met the definition of "formal education activity" as established in Chapter Two of the study. For those meeting the criteria, values for the seven factors from the "Formal Education EPS" were also entered into the StatView program. One individual responded "no" to having participated in a formal education activity in the past twelve months, but responded to both the "Audiocassette Use EPS" and "Formal Education EPS" instruments. It was assumed that he or she had misunderstood the instructions, therefore data for that individual were regarded as unusable. Four subjects filled out the "Formal Education EPS" but indicated that the activity about which they were responding either had no teacher or had not met as a group. "Audiocassette Use EPS" scores for these individuals were used in the analysis; their "Formal Education EPS" scores were not included.

Statistical Treatment

Four questions were posed in this study. To answer each question, the following statistical treatments were used:

1. What are the motivational orientations of adults who participate in autodidactic learning activities?

To answer this question, scores for all returned copies of the EPS which were marked "Audiocassette Use" were entered in the StatView program. For each of the seven factors, values for all of the respondents were summed and divided by the number of respondents, establishing group means for each factor. These means, discussed in

Chapter Four, describe the motivational orientations of this group of autodidactic learners.

2. Do the motivational orientations of adults who participate in autodidactic learning activities differ on the basis of gender, age, or highest educational level attained?

To answer this question, mean scores for the "Audiocassette Use EPS" were tested for statistically significant differences. One-way Analysis of Variance (ANOVA) tests were employed for each EPS factor on each of the three variables - gender, age, and educational attainment.

3. Do the motivational orientations of adults who participate in autodidactic learning activities differ from their motivational orientations when they participate in formal learning activities?

To answer this question, EPS mean scores for those respondents who indicated that they also participated in formal education activities were considered. Mean scores for the seven factors of the "Audiocassette Use EPS" for this group were tested against mean scores for the seven factors of the "Formal Adult Education EPS" for the same group. Because a single group of subjects was studied under two different conditions, a dependent t-test of difference was employed.

4. Do the motivational orientations of autodidactic learners who also participate in formal learning activities differ from the motivational orientations of autodidactic learners who do not participate in formal learning activities?

To answer this question, mean scores from the "Audiocassette Use EPS" for those subjects who indicated that they had participated in

formal adult education activities were tested against the mean scores from the "Audiocassette Use EPS" for those subjects who indicated that they had not participated in formal education activities in the past twelve months. Because the two groups being studied were unrelated, an independent t-test of difference was employed.

Summary

This chapter described the procedures which were utilized for collecting data for this study, including selection of the population and sample, instrumentation, and data analysis procedures. Two hundred and fourteen audiocassette program users were identified and invited to participate in this study. One hundred and seven usable responses were obtained. The analysis of the data and discussion are presented in Chapter Four.

CHAPTER FOUR

RESULTS

Introduction

The purpose of the study was to explore reasons for participation in autodidactic learning activities by identifying the motivational orientations of autodidacts as measured by the Education Participation Scale (EPS) (Boshier, 1982). The orientations were examined for statistical differences on the basis of gender, age, highest educational level, and the subjects' participation or nonparticipation in formal educational activities. Finally, the orientations of the group were compared to the orientations of a masterfile group of subjects toward formal education.

This chapter presents the results of the statistical analysis and interpretation of data related to the four questions asked in the study. It begins with a description of the demographic characteristics of the sample.

Descriptive Characteristics of the Sample

The sample for the study consisted of 214 audiocassette program users. One hundred and seven program users responded to the survey, for a 50% response rate.

Table 1 presents summary information for the three demographic variables, gender, age, and highest educational level completed. Seventy-seven respondents, representing almost 72% of the sample, were male. The 30 female respondents represented approximately 28% of the sample.

The youngest respondent in the study was 24 years of age, the oldest was 77. The average age of respondents was 41.68 years.

Twenty-five percent of the respondents had obtained a high school diploma or certificate. Twenty-one percent held a Bachelor's Degree and 18% held a Master's Degree. Less than 2% of the respondents had not completed high school, and 8% had earned a doctorate.

Data Analysis for Question 1

The first question was: What are the motivational orientations of adults who participate in autodidactic learning activities? Mean scores were computed for each of the seven factors of the EPS completed by all respondents. Each score fell between a minimum of 6 and a maximum of 24.

Table 2 presents the mean scores for each of the seven motivational orientation factors of the EPS for this group, arranged in descending order of magnitude. The Cognitive Interest factor had the highest mean score (19.84), followed by Professional Advancement (15.50), Communication Improvement (14.07), Educational Preparation (12.34), Social Stimulation (10.86), Social Contact (10.55), and Family

Table 1: Subject Demographics by Gender, Age and Educational Level

Item	Frequency	Percent
Gender		
Male	77	71.96
Female	30	28.04
Total	107	100.00
Age		
21 to 30	10	9.35
31 to 40	37	34.58
41 to 50	39	36.45
51 to 60	17	15.89
61 and over	2	3.73
Total	107	100.00
Educational Level		
Did not complete High School	2	1.87
High School Diploma or Certificate	27	25.23
Vocational School	13	12.15
Associate Degree	12	11.21
Bachelor's Degree	23	21.50
Master's Degree	19	17.76
Doctorate	9	8.41
Other	2	1.87
Total	107	100.00

Table 2: "Audiocassette Use EPS" Mean Scores

Factor	Mean	Standard Deviation
Cognitive Interest	19.84	3.41
Professional Advancement	15.50	4.73
Communication Improvement	14.07	3.48
Educational Preparation	12.34	4.17
Social Stimulation	10.86	3.81
Social Contact	10.55	4.32
Family Togetherness	9.72	3.77

Togetherness (9.72). The author of the EPS selected a midpoint of 15 on the range of scores and used it as a point of reference for discussing the orientations of subjects in his masterfile dataset (Boshier, 1991). For the respondents in the current study only two factors, Cognitive Interest (19.84) and Professional Advancement (15.50), were above the midpoint of 15.

As was noted in Chapter Two, research employing the EPS has done so primarily in terms of formal education activities. No study utilizing the EPS has specifically targeted autodidacts; thus no other data were available for a direct comparison with the results of this study, in terms of autodidactic activities. Two studies, however, did provide for a limited level of comparison, in terms of results related to Question One.

Dickinson and Clark's (1975) categorization of learning activities as self-education and continuing education were considered to be similar to the present study's differentiation between autodidacticism

and formal education activities, respectively. Utilizing the Continuing Learning Orientations Index (CLOI) (Sheffield, 1962/1963), Dickinson and Clark formulated six hypotheses based on the goal, activity, and learning orientations (originally described by Houle in 1961) and their relationships to self-education and continuing education activities. Dickinson and Clark hypothesized and confirmed a strong positive relationship between the learning orientation and participation in both self-education activities and continuing education activities. The Cognitive Interest factor from the EPS used in the present study seems comparable to Dickinson and Clark's learning orientation, thus the dominance of the Cognitive Interest factor among the audiocassette users in the present study seems consistent with Dickinson and Clark's findings.

Dickinson and Clark's tests to determine the relationship of the goal and activity orientations to participation in the two types of activities produced mixed results. Their findings concerning the relationship of the goal orientation seem to have some implications for the findings of the present study, however. They hypothesized a strong positive relationship between the goal orientation and participation in self-education activities. Selected items within the goal orientation were categorized as either occupational or professional. They found a statistically significant positive correlation between the occupational items (that is, those associated with performance in a specific job) and participation in self-education. They found a significant negative correlation between the professional items (that is, those associated with professional advancement) and participation in self-education.

The EPS as scored in the present study did not allow for differentiation between occupational and professional items; both were included in the Professional Advancement factor. Thus comparisons to Dickinson and Clark's results were limited. It appears, however, that the strength of the Professional Advancement factor among the autodidacts in the present study is somewhat similar to the findings in the Dickinson and Clark study.

A study done by Pipke (1983) also provided for limited comparison with the results the current study. Pipke used the EPS to identify the motivational orientations of a group of adult educators engaged in formal education activities and developed an instrument to measure what she termed their "penchant for self-directed learning" (1983, p. 181). Her hypothesis that a participant's Cognitive Interest motivational orientation and his or her penchant for self-directed learning were related was not confirmed. The strength of the Cognitive Interest factor among the audiocassette users in the present study could be interpreted as contradictory to Pipke's results, but it is noted that subjects in Pipke's study were responding in terms of formal education activities, not autodidactic activities.

In summary, when pursuing the audiocassette activity the subjects in the present study primarily exhibited the Cognitive Interest and Professional Advancement orientations. As Boshier (1991) described the Cognitive Interest factor, it is concerned with the pursuit of knowledge for its own sake, and with satisfying or expanding an inquiring mind. The relative strength of the Professional Advancement factor indicates that pursuit of the audiocassette activity was viewed as

a way of improving status in one's job or perhaps moving into a better job.

Data Analysis for Question 2

The second question posed in the study was: Do the motivational orientations of adults who participate in autodidactic learning activities differ on the basis of gender, age, or highest educational level attained? One-way Analysis of Variance (ANOVA) was employed to test the mean scores from the "Audiocassette Use EPS" for statistically significant differences in terms of gender, age, and educational attainment.

Table 3 presents the mean scores for each of the seven factors on the basis of gender, arranged in descending order of magnitude for the male subjects. The Cognitive Interest factor was the strongest for both males and females, followed by Professional Advancement,

Table 3: "Audiocassette Use EPS" Mean Scores by Gender

Factor	Male N=77	Female N=30
Cognitive Interest	19.77	20.03
Professional Advancement	16.05	14.10
Communication Improvement	14.13	13.90
Educational Preparation	12.40	12.17
Social Stimulation	11.08	10.30
Social Contact	10.91	9.63
Family Togetherness	9.65	9.90

Communication Improvement, Educational Preparation, and Social Stimulation. Social Contact was the sixth strongest factor for males and the seventh strongest for females, while Family Togetherness was the seventh strongest factor for males but the sixth strongest for females. The males in the audiocassette group exhibited the same pattern of factor strengths as the total group, and the females differed on only one factor.

Table 4 presents the results of the ANOVA for gender on each of the seven factors. With 1 and 105 degrees of freedom, the F-value required for significance at the .05 level was 3.94. All of the F-values in Table 4 were below this value. There were no statistically significant differences among audiocassette users on any of the seven EPS factors on the basis of gender.

To determine whether statistically significant differences existed within the group on the basis of age, participants were categorized by ten-year intervals starting at age 21. Because only four subjects comprised the "above 60" category, their mean scores were combined with the "51 to 60" category to create an "above 50" category. Table 5 presents the mean scores for each of the resulting four age categories for each of the seven factors, arranged in descending order of magnitude for the youngest group. The patterns for the mean scores exhibited by all four groups were basically the same as that for the total group.

Table 6 presents the results of the ANOVA for age on each of the seven factors. With 3 and 103 degrees of freedom, the F-value required for statistical significance at the .05 level was 2.70. No statistically

Table 4: Results of ANOVA for "Audiocassette Use EPS" by Gender

Factor	Source of Variation	Degrees of Freedom	Sum of Squares	Mean Squares	F-Value	Prob.
Cognitive Interest	Between Groups	1	1.54	1.54	.13	.7179
	Within Groups	105	1232.76	11.74		
	Total	106	1234.30			
Professional Advancement	Between Groups	1	82.26	82.26	3.78	.0545
	Within Groups	105	2284.49	21.76		
	Total	106	2366.75			
Communication Improvement	Between Groups	1	1.14	1.14	.09	.7604
	Within Groups	105	1281.4	12.20		
	Total	106	1282.54			
Educational Preparation	Between Group	1	1.2	1.2	.07	.7940
	Within Groups	105	1840.69	17.53		
	Total	106	1841.89			
Social Stimulation	Between Groups	1	13.06	13.06	.90	.3446
	Within Groups	105	1521.83	14.49		
	Total	106	1534.90			
Social Contact	Between Groups	1	35.14	35.14	1.89	.7940
	Within Groups	105	1947.33	18.55		
	Total	106	1982.47			
Family Togetherness	Between Groups	1	1.36	1.36	.09	.7592
	Within Groups	105	1508.23	14.36		
	Total	106	1509.59			

$P.05 \geq 3.94$ (with 1 and 105 degrees of freedom)

*Significant at .05 level of significance.

Table 5: "Audiocassette Use EPS" Mean Scores by Age Category

Factor	21 - 30 N = 13	31 - 40 N = 37	41 - 50 N = 38	Over 50 N = 19
Cognitive Interest	19.23	20.19	20.00	19.26
Professional Advancement	15.62	16.78	15.26	13.42
Communication Improvement	12.92	14.22	13.87	14.95
Educational Preparation	12.00	12.97	12.05	11.89
Social Stimulation	9.62	11.27	11.53	9.58
Social Contact	9.23	11.30	10.74	9.63
Family Togetherness	19.23	20.19	20.00	19.26

Table 6: Results of ANOVA for "Audiocassette Use EPS" by Age

Factor	Source of Variation	Degrees of Freedom	Sum of Squares	Mean Squares	F-Value	Prob.
Cognitive Interest	Between Groups	3	16.63	5.54	.47	.7046
	Within Groups	103	1212.67	11.82		
	Total	106	1234.30			
Professional Advancement	Between Groups	3	145.40	48.47	2.25	.0873
	Within Groups	103	2221.35	21.57		
	Total	106	2366.75			
Communication Improvement	Between Groups	3	34.06	11.35	.94	.4259
	Within Groups	103	1248.48	12.12		
	Total	106	1282.54			
Educational Preparation	Between Group	3	23.23	7.74	.44	.7259
	Within Groups	103	1818.66	17.66		
	Total	106	1841.89			
Social Stimulation	Between Groups	3	74.42	24.81	1.75	.1616
	Within Groups	103	1460.48	14.18		
	Total	106	1534.90			
Social Contact	Between Groups	3	60.64	20.21	1.08	.3596
	Within Groups	103	1921.83	18.66		
	Total	106	1982.47			
Family Togetherness	Between Groups	3	73.51	24.50	1.76	.1600
	Within Groups	103	1436.08	13.94		
	Total	106	1509.59			

$P.05 \geq 2.70$ (with 3 and 103 degrees of freedom)

*Significant at .05 level of significance.

significant differences were found to exist among audiocassette users on any of the seven EPS factors on the basis of age.

Table 7 presents the mean scores for each of the seven factors on the basis of highest educational level achieved by respondents. Because only two subjects comprised the "less than High School" category, their mean scores were combined with the "High School" category to create a "High School or less" category. The scores are arranged in descending order of magnitude for this group. Six educational levels were tested for statistically significant differences. Although there were some variations, the factors were arranged in essentially the same order for all groups.

Table 8 presents the results of the ANOVA for educational level on each of the seven factors. With 5 and 100 degrees of freedom (educational data were missing for one subject), the F-value required for significance at the .05 level was 2.30. Statistically significant differences were found to exist for the Educational Preparation ($F = 3.64$) and Family Togetherness ($F = 3.39$) factors.

For both factors, Educational Preparation and Family Togetherness, Fisher's Protected Least Significant Difference (PLSD) test was used to locate group differences. Table 9 presents the results of the PLSD for the first factor, Educational Preparation. Statistically significant differences were found between the scores of those subjects with a High School education or less and those who had earned a Master's degree. Differences were also found between the scores of

Table 7: "Audiocassette Use EPS" Mean Scores by Educational Level

Factor	H.S. or Less N = 29	Vocational N = 14	Associate N = 12	Bachelor's N = 23	Master's N = 19	Doctorate N = 9
Cognitive Interest	19.55	20.86	20.83	19.52	18.68	20.78
Professional Advancement	15.79	15.64	16.08	15.39	15.58	13.11
Communication Improvement	15.14	15.00	14.83	12.70	13.42	13.00
Educational Preparation	13.41	14.93	12.25	12.04	9.84	10.44
Social Stimulation	10.69	12.64	11.83	9.91	10.42	10.11
Social Contact	10.62	13.07	11.42	9.26	10.00	9.56
Family Togetherness	10.55	12.29	10.00	7.91	9.16	8.11

Table 8: Results of ANOVA for "Audiocassette Use EPS" by Educational Level

Factor	Source of Variation	Degrees of Freedom	Sum of Squares	Mean Squares	F-Value	Prob.
Cognitive Interest	Between Groups	5	64.27	12.85	1.11	.3609
	Within Groups	100	1159.95	11.60		
	Total	105	1224.23			
Professional Advancement	Between Groups	5	58.38	11.68	.51	.7662
	Within Groups	100	2277.89	22.78		
	Total	105	2336.26			
Communication Improvement	Between Groups	5	113.92	22.78	1.95	.0928
	Within Groups	100	1168.62	11.69		
	Total	105	1282.54			
Educational Preparation	Between Group	5	280.02	56.00	3.64*	.0046
	Within Groups	100	1539.92	15.40		
	Total	105	1819.93			
Social Stimulation	Between Groups	5	85.79	17.16	1.21	.3118
	Within Groups	100	1422.43	14.22		
	Total	105	1508.23			
Social Contact	Between Groups	5	151.02	30.20	1.65	.1535
	Within Groups	100	1829.33	18.29		
	Total	105	1980.35			
Family Togetherness	Between Groups	5	217.46	43.49	3.39*	.0071
	Within Groups	100	1281.27	12.81		
	Total	105	1498.73			

$P.05 \geq 2.30$ (with 5 and 100 degrees of freedom)

*Significant at .05 level of significance.

Note: Data missing for one subject.

Table 9: Results of Fisher PLSD for Educational Preparation Factor

Comparison	Mean Difference	Fisher PLSD
High School vs Master's	3.57	2.30*
Vocational vs Bachelor's	2.89	2.64*
Vocational vs Master's	5.09	2.74*
Vocational vs Doctorate	4.48	3.33*

*Significant at .05 level of significance.

subjects who pursued vocational education beyond high school and those who had earned a Bachelor's, Master's, or doctoral degree. The "High School or less" group yielded a higher mean score (13.41) than the "Master's" group (9.84). The "Vocational" group yielded a higher mean score (14.93) than the "Bachelor's" group (12.04), the "Master's" group (9.84), or the "Doctorate" group (10.44).

Table 10 presents the results of the PLSD for the Family Togetherness factor. Statistically significant differences were found between the scores of subjects with a high school education or less and those who had earned a Bachelor's degree. Differences were also found between the scores of subjects who had pursued vocational education beyond high school and those who had earned a Bachelor's, Master's, or doctoral degree. The "High School or less" group yielded a higher mean score (10.55) than the "Bachelor's" group (7.91). The "Vocational"

Table 10: Results of Fisher PLSD for Family Togetherness Factor

Comparison	Mean Difference	Fisher PLSD
High School vs Bachelor's	2.64	1.98*
Vocational vs Bachelor's	4.37	2.41*
Vocational vs Master's	3.13	2.50*
Vocational vs Doctorate	4.17	3.03*

*Significant at .05 level of significance.

group also yielded a higher mean score (12.29) than the "Bachelor's" group (7.91), "Master's" group (9.16), or "Doctorate" group (8.11).

As Boshier (1991) described it, the Educational Preparation factor is concerned with remediation of past educational deficiencies or preparation for higher or more specialized education in the future. Subjects with lower educational levels might reasonably be expected to exhibit higher scores on this factor than subjects who have attained higher educational levels. In the current study this difference did occur between the high school or less education subjects and those with a Master's degree. It did not occur between the high school or less education subjects and those with a Bachelor's degree or a doctorate, which might also have been anticipated based on the logic above.

The Family Togetherness factor represents the bridging of generation gaps and improving family relationships. No immediate explanation presents itself as an interpretation of the finding that the

high school or less education subjects exhibited this factor more strongly than subjects who had earned a Bachelor's degree. The high school or less education subjects differed from Bachelor's degree subjects on one factor and from Bachelor's degree subjects on another factor. These inconsistencies provide little room for interpretation in terms of this particular group. The vocational subjects, however, exhibited more uniform differences between themselves and subjects with college degrees. More so than those subjects who pursued either Bachelor's, Master's, or doctoral degrees, the vocational group exhibited the Educational Preparation and Family Togetherness factors as reasons for audiocassette program use.

Data Analysis for Question 3

The third question which the study sought to answer was: Do the motivational orientations of adults who participate in autodidactic learning activities differ from their motivational orientations when they participate in formal learning activities? Subjects who indicated that they participated in both types of educational activities were compared on the basis of two measures, their mean scores on the "Audiocassette Use EPS" and on their mean scores on the "Formal Education EPS." Fifty-eight respondents (approximately 54% of the sample) indicated that they had participated in both types of activities.

Table 11 presents the motivational orientation mean scores for the "Formal Education EPS," arranged in descending order of magnitude. The mean scores for two factors, Cognitive Interest (18.17)

Table 11: "Formal Education EPS" Mean Scores

Factor	Mean	Standard Deviation
Cognitive Interest	18.17	4.31
Professional Advancement	17.19	5.14
Educational Preparation	14.36	4.77
Communication Improvement	12.31	4.82
Social Contact	10.60	4.45
Social Stimulation	8.84	3.34
Family Togetherness	8.78	3.63

and Professional Advancement (17.19), were above the scale midpoint of 15. Cognitive Interest and Professional Advancement had also emerged as the two strongest orientations for the audiocassette users. The subjects exhibited the same orientations for participation in both their formal and audiocassette activities.

A dependent t-test was utilized to test for statistically significant differences between the mean scores for the "Audiocassette Use EPS" and the "Formal Education EPS." Table 12 presents the t-values which were computed for each of the seven factors of the EPS. With 57 degrees of freedom, the t-value required for statistical significance at the .05 level was 2.00. For six of the seven factors, the calculated t-values were found to be higher than 2.00. These included Communication Improvement ($t = 4.49$), Educational Preparation ($t = 2.59$), Professional Advancement ($t = 2.55$), Family Togetherness ($t = 2.52$), Social Stimulation ($t = 4.62$), and Cognitive Interest ($t = 4.87$).

Table 12: Results of Dependent t-Test for "Audiocassette Use EPS" and "Formal Education EPS"

Factor	Audiocassette Mean	Formal Mean	t-Value
Cognitive Interest	19.84	18.17	4.87*
Professional Advancement	15.50	17.19	2.55*
Communication Improvement	14.07	12.31	4.49*
Educational Preparation	12.34	14.36	2.59*
Social Stimulation	10.86	8.84	4.62*
Social Contact	10.55	10.60	.62
Family Togetherness	9.72	8.84	2.52*

P.05 $\geq$ 2.00 (with 57 degrees of freedom)

* Significant at .05 level of significance

The mean scores for the audiocassette group were significantly higher for the Communication Improvement, Family Togetherness, Social Stimulation, and Cognitive Interest factors.

The mean scores for the formal group were significantly higher for the Educational Preparation and Professional Advancement factors. No statistically significant difference was found between the mean scores for the Social Contact factor.

It seems reasonable to assume that subjects would associate the content of the three audiocassette programs with an orientation toward learning for the joy of learning or knowledge for its own sake (Cognitive Interest); for learning to better understand what people are saying (Communication Improvement); to get a break in the routines of home

and work (Social Stimulation); or to keep up with the interests of family members (Family Togetherness). The Psychology of Winning audiocassette program, for example, deals with behavioral and attitudinal aspects of self-improvement and success that might be viewed as avenues to increased personal satisfaction and improved relationships with others. The Insights program also targets enhanced self-image and creativity; while the Vocab program targets specific communication skills.

It also seems reasonable to associate an orientation toward preparation for further education (Educational Preparation) and the need to get a better job or to increase job competencies (Professional Advancement) with participation in formal education activities. Having noted this, it is important to point out that the subjects also strongly exhibited the Professional Advancement orientation toward audiocassette use, as indicated by the fact that this orientation was second only to Cognitive Interest in terms of the order of magnitude of EPS mean scores (see Table 2).

The Social Contact factor yielded no significant difference. The factor is associated with meeting people and making friends. It might be anticipated that this factor would emerge more strongly among subjects pursuing formal activities, which was not the case in this study. A review of the literature revealed that this factor has yielded unanticipated findings in previous studies as well. Those nurses in the Dickinson and Clark (1975) study who said that they participated for reasons of interaction with others were found to be more active in self-education activities. Smith, too, found "cause for speculation" (1983,

p.102) when the Social Contact factor emerged as the least important for subjects in her study, while it had emerged first in other studies she had cited.

Candy (1991) speculated as to whether people who pursue autodidactic activities might differ psychologically from those who pursue formal education activities. Candy interpreted the results of the study by Pipke (1983) to suggest that autodidacts may not be psychologically different from adults participating in formal instructional settings. The audiocassette users in this study displayed a similar pattern of orientations in both their audiocassette and their formal activities, although the relative strengths of their orientations differed for most factors.

Data Analysis for Question 4

The fourth question which the study sought to answer was: Do the motivational orientations of autodidactic learners who also participate in formal learning activities differ from the motivational orientations of autodidactic learners who do not participate in formal learning activities? To answer this question, the mean scores of the "Audiocassette Use EPS" for those subjects who indicated that they also participated in formal education activities were compared to the mean scores of the "Audiocassette Use EPS" for those subjects who indicated that they had not participated in formal education activities as defined in the study.

An independent t-test was employed to test for statistically significant differences in the mean scores on the basis of participation or nonparticipation in formal activities. Table 13 presents the results of the statistical analysis. Mean scores for those subjects participating in audiocassette and formal education activities (labeled "Both") and scores for subjects participating in audiocassette but not formal activities (labeled "Audiocassette Only") are presented for each of the seven factors. With 105 degrees of freedom, the t-value required for significance at the .05 level was 1.99. Statistically significant differences were found only on the Communication Improvement factor ($t = 2.17$). For this factor, subjects participating in both types of activities yielded a higher mean score (14.72) than subjects participating only in audiocassette activities (13.29).

The finding that shows no statistically significant differences in the two groups for six of seven factors may be explained by the fact that all subjects responded to the same questionnaire (labeled "Audiocassette Use EPS"). Thus, responses to the questionnaire were made by subjects in terms of their audiocassette use, and unlike the responses described in Question Three, not in terms of their participation in formal activities. Despite these expected similarities, however, no explanation is readily available for the significant difference in terms of the Communication Improvement factor.

Table 13: Results of Independent t-Test for Audiocassette Only
Subjects and Audiocassette and Formal Subjects¹

Factor	Mean	Standard Deviation	t-Value
Cognitive Interest			
Both	19.91	3.41	.24
Audiocassette Only	19.76	3.45	
Professional Advancement			
Both	15.84	4.84	.81
Audiocassette Only	15.10	4.60	
Communication Improvement			
Both	14.72	3.40	2.17*
Audiocassette Only	13.29	3.44	
Educational Preparation			
Both	12.98	4.22	1.76
Audiocassette Only	11.57	4.02	
Social Stimulation			
Both	10.67	3.51	.55
Audiocassette Only	11.08	4.16	
Social Contact			
Both	10.22	4.19	.85
Audiocassette Only	10.94	4.49	
Family Togetherness			
Both	9.76	4.24	.12
Audiocassette Only	9.67	3.18	

P.05 $\geq$ 1.99 (with 105 degrees of freedom)

* Significant at .05 level of significance

¹ Audiocassette Only subjects did not pursue formal activities; Audiocassette and Formal subjects pursued both audiocassette and formal activities.

Comparisons to Boshier's Masterfile Dataset

The author of the EPS (Boshier, 1991) compiled a masterfile dataset from 845 North American and Asian subjects as he developed the EPS-A form. The mean scores of these subjects were available and useful for comparison with subjects in the current study. Boshier's results were selected for comparison because they were current, represented a large number of subjects, and included the seven factors measured in the present study.

Table 14 presents the motivational orientation mean scores in Boshier's masterfile dataset, arranged in descending order of

Table 14: EPS Masterfile Mean Scores

Factor	Mean	Standard Deviation
Professional Advancement	18.52	4.47
Educational Preparation	17.80	4.86
Cognitive Interest	16.81	4.11
Communication Improvement	15.65	5.84
Social Contact	11.97	4.90
Social Stimulation	10.25	4.07
Family Togetherness	9.79	4.17

Source: Boshier, R. (1991). Psychometric Properties of the Alternative Form of the Education Participation Scale. Adult Education Quarterly, 41 (3), p. 162.

magnitude. Mean scores for four factors were above the reference midpoint of 15. These factors and mean scores were Professional Advancement (18.52), Educational Preparation (17.80), Cognitive Interest (16.81), and Communication Improvement (15.65). The mean scores for three factors, Social Contact (11.97), Social Stimulation (10.25), and Family Togetherness (9.79), fell below the midpoint of 15.

Table 15 presents a summary of the motivational orientations of the subjects in the current study. The first column lists the orientations for the entire group. The second column lists the orientations for those subjects who pursued audiocassette activities only; that is, they did not also participate in formal education activities.

The third column lists the orientations for those subjects who pursued formal activities in addition to their audiocassette use. The fourth column lists the motivational orientations of the masterfile dataset subjects. Orientations in each column are arranged in descending order of magnitude of the means for each factor. The solid line represents the midpoint score of 15; those factors above this line yielded a mean score higher than 15.

As can be seen from the first and second columns, subjects in the study who participated only in the audiocassette activity exhibited a pattern of orientations identical to that of the audiocassette group as a whole. The group represented in the third column, subjects who participated in formal education activities as well as the audiocassette activity, exhibited a pattern of orientations which varied only slightly from that of the audiocassette group as a whole. This group exhibited the Cognitive Interest and Professional Advancement factors as primary ✓

Table 15: Patterns of Motivational Orientations by Group

All Audiocassette ¹	Audiocassette Only ²	Formal ³	Masterfile ⁴
Cognitive Interest	Cognitive Interest	Cognitive Interest	Professional Advancement
Professional Advancement	Professional Advancement	Professional Advancement	Educational Preparation
Communication Improvement	Communication Improvement	Educational Preparation	Cognitive Interest
Educational Preparation	Educational Preparation	Communication Improvement	Communication Improvement
Social Stimulation	Social Stimulation	Social Contact	Social Contact
Social Contact	Social Contact	Social Stimulation	Social Stimulation
Family Togetherness	Family Togetherness	Family Togetherness	Family Togetherness

¹ All subjects, toward audiocassette use.

² Those subjects participating in audiocassette use only, toward audiocassette activity.

³ Those subjects who also participated in formal activities, toward the formal activities.

⁴ Motivational orientation of subjects comprising Boshier Masterfile, toward formal activities.

reasons for participation in formal activities. The audiocassette group as a whole exhibited the same two factors as primary reasons for participation in audiocassette activities. Thus it was found that the three groups in the study were very similar in terms of their motivational orientations toward either type of activity.

The fourth column in Table 15 represents the orientation factors exhibited by the subjects in Boshier's masterfile group. Four factors have means above the midpoint of 15; they include Professional Advancement, Educational Preparation, Cognitive Interest, and Communication Improvement. Comparison of the first and fourth columns indicates that the audiocassette users primarily exhibited Cognitive Interest and Professional Advancement as reasons for participation in this particular activity, whereas subjects in the masterfile group primarily exhibited these two factors as well as Educational Preparation and Communication Improvement.

It is reasonable to think that subjects would turn to formal educational pursuits to remedy previous educational deficiencies or to prepare for future educational endeavors. That Educational Preparation, which did not emerge highest among the audiocassette users, would be a strong orientation for subjects in Boshier's masterfile group is not an unusual finding. Boshier's subjects were responding in terms of formal education activities. The strength of the Communication Improvement orientation among Boshier's subjects but not among the audiocassette users seems less clear.

A second way of comparing the data from the current group to subjects in Boshier's masterfile group is illustrated by the dotted line in

Table 15. When viewed in terms of the top four factors for each group, the same four factors emerged for all four groups. The groups were similar in this respect, but Cognitive Interest was a stronger factor for subjects in the study than for subjects in the masterfile group. As was noted earlier, the strength of the Cognitive Interest factor may be associated with a view that the audiocassette activity was simply yet another way to increase one's knowledge. The strength of Cognitive Interest for subjects participating in formal activities may lie in their initial categorization as autodidacts. All subjects were initially asked to respond to the EPS in terms of the audiocassette activity. If those who subsequently responded to the EPS in terms of a formal activity were influenced by having first responded as audiocassette users, their responses may have more closely resembled their own audiocassette responses than the responses from Boshier's masterfile group.

Summary

This chapter has presented a demographic picture of the participants in the current study. Data related to the four questions asked in the study were presented and interpreted. Chapter Five will present conclusions drawn from these results and potential implications for practice and research.

CHAPTER FIVE

SUMMARY AND CONCLUSIONS

Introduction

This chapter briefly summarizes the preceding four chapters. After a summary of the findings of the study, it presents conclusions and implications for practice and future research.

Purpose of the Study

The study explored reasons for participation in autodidactic learning activities by identifying the motivational orientations of autodidacts as measured by the Education Participation Scale (EPS) (Boshier, 1982). The orientations were examined for statistical differences on the basis of gender, age, highest educational level, and subjects' participation or nonparticipation in formal educational activities. Finally, the orientations of the group were compared to the orientations of a masterfile group of subjects toward formal education, taken from a large dataset compiled by the author of the EPS.

Sample and Procedure

The sample in this study included 214 audiocassette program users. One hundred and seven respondents returned usable data.

Subjects ranged in age from 24 to 77, with a mean age of about 42 years. Almost 72% of the sample were males. Twenty-five percent of the respondents had completed high school or less, 21% had completed a Bachelor's degree, and another 18% had completed a Master's degree. In addition, 8% of the sample had earned a doctorate.

Data were collected using the most recent version of Boshier's (1991) Education Participation Scale, the EPS-A. In use since 1971, this and previous versions of the EPS have been used to measure the motivational orientations of thousands of subjects. The current version of the instrument measures motivational orientations in terms of seven factors. These include Communication Improvement, Social Contact, Educational Preparation, Professional Advancement, Family Togetherness, Social Stimulation, and Cognitive Interest.

Subjects were sent a packet of materials with a cover letter soliciting their participation in the research effort. Each subject was asked to complete a copy of the EPS marked "Audiocassette Use EPS." Subjects were asked to respond to the instrument in terms of their use of audiocassette programs. Those subjects indicating that they had participated in a formal education activity within the past year were asked to complete a second instrument. These subjects were asked to complete a copy of the EPS marked "Formal Education EPS." They were asked to respond to the second instrument in terms of the formal education activity.

Summary of Findings

The first question addressed in the study was: What are the motivational orientations of adults who participate in autodidactic learning activities? Based on the magnitude of the group mean scores for each of the seven factors, it was determined that Cognitive Interest and Professional Advancement were the strongest orientations underlying the group's participation in the autodidactic activity of audiocassette program use. The remaining factors, in descending order of mean scores, were Communication Improvement, Educational Preparation, Social Stimulation, Social Contact, and Family Togetherness.

The second question posed in the study was: Do the motivational orientations of adults who participate in autodidactic learning activities differ on the basis of gender, age, or highest educational level attained? No differences were found to exist among the group for the variables of gender or age. Statistically significant differences emerged between those subjects who had pursued vocational education after high school and those who had pursued academic degrees after high school. The differences were found for the Educational Preparation and Family Togetherness factors. The Educational Preparation factor was stronger for the vocational group than for the academic degree groups. The Family Togetherness factor was also stronger for the vocational group than for the academic degree groups.

The third question addressed was: Do the motivational orientations of adults who participate in autodidactic learning activities differ from their motivational orientations when they participate in formal learning activities? The audiocassette users exhibited the same pattern of motivational orientations toward both the audiocassette and the formal activities. When the mean scores for subjects for each of the seven factors were arranged in descending order of magnitude, it was found that they exhibited the same primary orientations, Cognitive Interest and Professional Advancement, for participation in both autodidactic and formal activities. Statistically significant differences were found to exist, however, between the group's motivations for participation in the two types of activities for six of the seven factors. The Communication Improvement, Family Togetherness, Social Stimulation, and Cognitive Interest factors were stronger when the subjects were pursuing the autodidactic activity. The Educational Preparation and Professional Advancement factors were stronger when the subjects were pursuing their formal education activities.

The fourth question asked was: Do the motivational orientations of autodidactic learners who also participate in formal learning activities differ from the motivational orientations of autodidactic learners who do not participate in formal learning activities? No statistically significant differences were found for these two groups for six of the seven EPS factors. There was a significant difference for a seventh factor, Communication Improvement.

In addition to answering the four questions asked in the study, overall results were compared to results from a masterfile dataset of

EPS responses. The audiocassette users exhibited two primary motivations, Cognitive Interest and Professional Advancement. The masterfile participants exhibited four primary motivations, Cognitive Interest, Professional Advancement, Educational Preparation, and Communication Improvement. Educational Preparation and Communication Improvement emerged as orientations for the audiocassette users as well, but not as strongly as for the masterfile participants. Cognitive Interest was the strongest factor underlying the participation of subjects in both audiocassette and formal activities, but was not the primary orientation for the masterfile subjects. Educational Preparation was a strong factor for the masterfile subjects but was not as strong for the audiocassette or formal participants.

Conclusions

1. It can be concluded that the EPS does effectively measure the motivational orientations of autodidactic learners. The instrument allowed for the collection of data which could be used to both describe and compare the motivational orientations of subjects toward two types of learning activities, autodidactic and formal.

2. An individual may exhibit more than one orientation toward a particular educational activity. A similar conclusion was reached by Courtney (1992), who suggested that adult education participants should be viewed in terms of combinations of orientations.

3. Individuals may exhibit the same orientations toward both autodidactic and formal education activities. Two motivational

orientations, Cognitive Interest and Professional Advancement, were exhibited by the group in this study as reasons for participation in both types of activities.

4. People may view audiocassette programs of the type used by subjects in this study as a way of satisfying intellectual curiosity or pursuing knowledge for its own sake. They may also view the programs as a potential avenue to professional advancement or as a way to improve current job performance. However, subjects in this study also viewed formal education activities as a means of achieving these same ends.

5. Although the strengths of individual orientations may be specific to particular activities, audiocassette users and those who participate in formal activities are more alike than different when measured in terms of motivational orientations. The subjects in this study held the same pattern of motivational orientations toward the use of audiocassette programs and participation in formal education activities. Those orientations which emerged strongest for audiocassette activity also emerged as the strongest for the formal activities. This seems to support Candy's (1991) conclusion that autodidactic learners are not psychologically different from those engaged in formal education activities.

6. The present study offers no conclusions about the relationship of gender or age to motivational orientations. No differences emerged among the audiocassette users for either variable. When Boshier (1991) examined his masterfile participants in terms of gender, he found that men were more likely to exhibit certain

orientations, while women were more likely to exhibit other orientations. He found no differences among his subjects on the basis of age. However, because the current study focused on an autodidactic activity and Boshier's results represent participants in formal education activities, the question of gender and age differences is left open to further inquiry.

7. There seems to be a relationship between type or level of education and the motivational orientations held by the audiocassette users, but the nature of this relationship is not at all clear from the results of this study. Subjects who pursued vocational education rather than degrees in higher education exhibited stronger orientations for participation in the audiocassette activity for two of the EPS factors.

Implications for Practice and Future Research

This study has confirmed similarities in the motivational orientations of adult learners as they participate in autodidactic and formal education activities. The similarity of their underlying reasons for participation in each type of activity is of significance for two reasons. First, the study provides educators operating within the realm of formal adult education increased understanding of those adults who choose to continue their learning outside of the formal setting. Autodidacts share with formal education participants a desire for continued learning; they have simply chosen a different route to obtain the goal. As such, they represent a potential market for adult educators. Knowledge of their reasons for participation can guide both

the program design and marketing strategies of adult educators in formal settings.

The similarity of reasons for participation in each type of activity is also significant because it can inform the design of instructional materials and learning resources for autodidacts. The notion of assisted autodidaxy is invoked here. If adults participate in both autodidactic and formal activities for similar reasons, it would appear that other factors, perhaps logistical, preclude some autodidacts from participating in formal activities. Should that be the case, they may still find instructional materials produced in formal education settings to be of value for their educational endeavors.

While the autodidacts in this study were more alike than different in terms of their motivational orientations toward autodidactic and formal activities, some differences were noted. This, too, has implications for adult educators. Knowledge of sources of difference provides a starting point for further inquiry into the nature of the adult learner. Several implications for future research seem appropriate based on the findings of this study. They are presented and discussed in the following paragraphs.

Subjects in this study were queried on the basis of their participation in a single autodidactic learning activity, the use of audiocassette programs. What is not known is whether this was the only autodidactic activity they were pursuing at the time, or perhaps one of many. This would seem to have implications in terms of the importance of the seven factors on which the group was measured. The same may hold true in terms of the formal education activities about

which they responded. The group was asked to select and describe one formal education activity; it may be that they were involved in others as well. The design of the present study was in keeping with Boshier's (1976) suggestion that precisely measured and immediate motives for a most recent or present activity would yield more reliable and valid subject responses. Future studies might incorporate ways of determining what larger framework of activities, both autodidactic and formal, surrounds each learner.

A related suggestion for future inquiry is that the current study ✓ be replicated with a different group of autodidactic learners. As with formal education activities, autodidactic activities are numerous and diverse. Such replication would confirm or contradict the findings of the current study and would add to the knowledge of autodidacts and adult learners in general.

This research entailed the identification of the subjects primarily as audiocassette program users. Initial correspondence was couched in terms of the audiocassette activity, and only secondarily were they asked to respond in terms of their participation in formal education activities. This sequence may have inadvertently influenced their responses to the "Formal Education EPS." Future studies might identify autodidacts who participate in formal education activities, but queried only in terms of formal activity.

As Boshier updated and revised the EPS, he also continued to examine its use as a predictor of psychological states. From a factor analysis of the first version of the EPS Boshier (1971) derived "deficiency" and "growth" motivations, which he related to Maslow's

(1954, 1970) work. Reynolds (1984) used the Self-Directed Learning Readiness Scale (Guglielmino, 1977) and the EPS to confirm that adult part-time students with high levels of self-directed learning readiness were likely to exhibit high scores for the Cognitive Interest factor. The strength of the Cognitive Interest factor among the audiocassette users in the current study provides evidence for the usefulness of such research applications to autodidactic learners. Future research might include the use of both the EPS and the Self-Directed Learning Readiness Scale. Researchers might also pursue the study of the learning styles of autodidacts. Such research would not only have implications for the design of educational materials, but would increase our understanding of the type of learner who selects autodidactic or formal activities.

As a final comment, it is recommended that future research on autodidactic learners incorporate a qualitative perspective. Capozzoli (1987) observed that the EPS does not provide access to the feelings or judgments of the learners being studied. This study has shown that autodidacts and participants in formal education activities are similar in some ways, yet there are differences to be further explored. Additional quantitative studies, and particularly the pursuit of qualitative research approaches, will assist adult educators in the goal of increased understanding of adult learning in whatever context it occurs.

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APPENDICES

Appendix A

Nightingale Conant

OFFICE OF THE PRESIDENT

April 30, 1993

Hi !

Martha Kreszock, a research assistant at the University of Tennessee, Knoxville Tennessee, recently approached Nightingale-Conant seeking our assistance with a study that she is conducting. Martha is working with Dr. John M. Peters, Professor and Coordinator, Graduate Program in Adult Education, to study participation in adult learning activities, particularly the use of audiocassette programs.

Because you are a good Nightingale-Conant customer, you have been selected to be among a small group who will soon receive a letter from Martha. She will ask you to participate in her study by responding to a packet of materials concerning your use of audiocassette programs and your participation in adult learning activities. She will provide a postage-paid envelope for you to return your response by mail.

, I hope that you will have a little time to respond to Martha's packet of materials. She estimates that it will take no more than fifteen minutes of your time. All responses will be kept confidential.

We appreciate your continuing support for our company and thank you in advance for your participation

The best to you,



Vic Conant

VC:mr

NIGHTINGALE-CONANT CORPORATION
7300 North Lehigh Avenue • Niles, Illinois 60714 • FAX 1-708-647-7145 • Phone 1-708-647-0300

Appendix B



Department of Technological and Adult Education
402 Claxton Addition
Knoxville, Tennessee 37996-3400
(615) 974-2574

Name~
Address~
City~, State~ Zip Code~

Dear Salutation~:

Mr. Vic Conant of Nightingale-Conant recently contacted you to request your participation in a research study which we are conducting. Your name was selected as a potential participant because you have purchased one or more of Nightingale-Conant's popular audiocassette programs, including The Psychology of Winning, Vocab, and Insight.

The independent form of learning represented by using audiocassette programs is of great interest to educational researchers. As someone who has used such programs, you offer a unique perspective which can help educators, and Nightingale-Conant, better understand how adults learn. Your information can help us provide better and more useful services to adult learners.

Your participation is vital to this study. You can complete **both questionnaires** within fifteen minutes. When you are ready to begin, please proceed to the page marked **INFORMATION SHEET**.

A stamped, pre-addressed envelope has been enclosed for your convenience in returning the completed materials. Thank you for contributing to this study.

Sincerely,

Martha H. Kreszock, Research Assistant
Graduate Program in Adult Education

Dr. John M. Peters, Professor and Coordinator
Graduate Program in Adult Education

Enc.

Appendix C

STATEMENT OF INFORMED CONSENT

The purpose of this research is to identify the reasons why audiocassette program users pursue this method of learning, and to compare them with reasons for participation in formal education programs. Your name will not appear on the returned instruments; thus your responses will be strictly confidential.

Your participation in this study is completely voluntary and you are under no obligation to complete and return the enclosed instruments. Your return of the completed instruments will constitute your formal consent to participate in this study.

If you have questions regarding this research, you may contact:

Martha H. Kreszock
Department of Technological and Adult Education
402 Claxton Addition
The University of Tennessee
Knoxville, TN 37996-3400

(615) 974-2574

Appendix D

INFORMATION SHEET

1. Have you listened to one or more of the audiocassette programs you purchased from Nightingale-Conant since you received them? ☐ Yes ☐ No

If you answered NO, skip Items 2 through 5 and go to the last item on this sheet, Item 6.

If you answered YES, indicate where you listen to these audiocassette programs (check all that apply):

- | | |
|---------------------------------|--|
| ☐ car | ☐ walking/jogging |
| ☐ home | ☐ other (specify) _____ |
| ☐ office | |

Now go to Item 2.

2. Look in the packet and find the Education Participation Scale which has a yellow dot in the upper right corner and is labelled "AUDIOCASSETTE USE." (There is a second copy with an orange dot - you will use it later.) Read the instructions on the inside front cover and complete all of the items on the questionnaire. When you have completed the questionnaire, go on to Item 3.

3. In the past 12 months have you participated in one or more formal education activities that met the following criteria?

- ☐ required that you enroll in order to participate (may be credit or non-credit)
- ☐ had a teacher or leader who directed the activity
- ☐ met as a group

☐ Yes ☐ No

If you answered NO, skip Items 4 and 5 and go to the last item on this sheet, Item 6.

If you answered YES, go to Item 4.

4. Choose one of the formal education activities you identified in Item 3 and respond to the following questions:

What was the subject or topic of the activity? _____

What agency, group, or organization sponsored it? _____

Was there a teacher or a leader? ☐ Yes ☐ No

Did the participants meet as a group? ☐ Yes ☐ No

5. Now look in the packet and find the Education Participation Scale which has an orange dot in the upper right corner. This one is labelled "FORMAL EDUCATION." This time you will answer the questions in terms of the formal education activity you described in Item 4. Read the instructions and complete all the items on the questionnaire. When you have completed this, go on to Item 6.

6. Please provide the following information about yourself:

Age: _____ Gender: ☐ Male ☐ Female

Education: ☐ Did not complete High School ☐ Bachelor's Degree
☐ High School Diploma or Certificate ☐ Master's Degree
☐ Vocational School ☐ Doctorate
☐ Associate Degree ☐ Other (Specify) _____

You have now finished the survey. Please place this sheet and both copies of the Education Participation Scale in the return envelope and mail.

Once again, thank you for your help with this study!

Appendix E

Recently, I sent you a packet of materials requesting your assistance in a study of audiocassette users. I have not yet received your response. Your input as an audiocassette user is of great importance to my study and I hope you're willing to participate.

If you have completed and returned the survey, thank you for your assistance. If you have not yet completed and returned it, would you do so?

If you've misplaced the first mailing but are still willing to participate, I'll send another if you will telephone me at (615) 974-4109. Thank you for your time. I look forward to hearing from you.

Thanks!

Martha Kreszock

Martha H. Kreszock

Appendix F

I would still like very much to include your responses in my research on audiocassette users. Your input is of great importance to the study.

If you have completed the questionnaires and mailed them, thank you for your assistance. If you have not yet completed and returned the questionnaires, there is still time. If you have misplaced the first set but are still willing to participate, I'll send another set of questionnaires if you will phone me at (615) 974-4109.

Thank you for your time. I look forward to hearing from you.

Thank you,
Martha Kreszock
Martha H. Kreszock

VITA

Martha Hudson Kreszock was born in Danville, Virginia, on January 27, 1950. Ms. Kreszock attended elementary and secondary schools in the Danville City School System and graduated from George Washington High School in 1968. In September of 1968 she entered Emory and Henry College (Emory, Virginia) and graduated from that institution in May of 1972 with a Bachelor of Arts degree. She earned a Master of Arts degree in Instructional Technology from Appalachian State University (Boone, North Carolina) in August of 1975 and an Educational Specialist degree in Higher Education from the same university in 1989. She entered the doctoral program in Technological and Adult Education at the University of Tennessee, Knoxville, in September of 1990.

Ms. Kreszock is currently employed as a Reference Librarian at Appalachian State University. She has held membership in several library-related organizations, and is a member of Phi Delta Kappa, Omicron Tau Theta, and the American Association for Adult and Continuing Education.