To the Graduate Council:

I am submitting herewith a dissertation written by Joanne M. Wood entitled "An Exploration of Adult Perception of Deterrents to Participation and Self-Directed Learning Readiness." I have examined the final copy of this dissertation for form and content and recommend that it be accepted in partial fulfillment of the requirements for the degree of Doctor of Education, with a major in Technological and Adult Education.

Dr. Ralph G. Brockett, Major Professor

We have read this dissertation
and recommend its acceptance:

Accepted for the Council:

Associate Vice Chancellor
and Dean of The Graduate School

AN EXPLORATION OF ADULT PERCEPTION OF DETERRENTS TO PARTICIPATION AND SELF-DIRECTED LEARNING READINESS

A Dissertation

Presented for the

Doctor of Education

Degree

The University of Tennessee, Knoxville

Joanne M. Wood

May 1994

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DEDICATION

This dissertation is dedicated to my parents, John and Artis Cheadle. I remember my father's constant involvement in various learning projects. His famous words to his eight children were, no matter how you learn "no one can ever take an education away from you." Through their example I learned the true meaning of lifelong learning and the importance of education.

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Several individuals are to be acknowledged for their help in the development and preparation of this work. My major professor, Dr. Ralph G. Brockett, has been inspirational in his encouragement of this work and of my professional growth. His empathetic demeanor was a motivating factor for the completion of this task. Members of the dissertation committee, Dr. Grady Bogue, Dr. Carol Kasworm, and Dr. John Peters and have all made invaluable contributions through their thought-provoking questions and words of encouragement.

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Particularly, I would like to extend my eternal gratitude to my husband, Tom, for his unfailing patience, support, and encouragement throughout the entire process of this work. His advise to persevere, his continual optimism, and his unconditional love allowed me to endure.

ABSTRACT

The purpose of this study was to explore the relationship between adult perceptions of deterrents to participation, self-directed learning readiness, and selected demographic variables. A convenience sample of 103 adults who inquired into Evening College credit programs at Maryville College, Maryville, Tennessee participated in the study. Subjects were administered the Self-Directed Learning Readiness Scale (SDLRS), the Deterrents to Participation Scale - General (DPS-G), and a background information form.

Findings of the study suggest that the DPS-G factors of "lack of confidence" and "low personal priority" were significantly related to total SDLRS scores and to seven of the eight SDLRS factor scores. The responses indicated that as one's level of confidence and one's sense of personal priority for involvement in higher education increases, so does total SDLRS scores and specific SDLRS factor scores.

Differences among gender and previous college enrollment were also found for DPS-G and SDLRS factors. The study indicated that females tend to view "personal problems" as a greater deterrent to participation and had higher mean scores for "love of learning." In regard to enrollment status, those who had not previously enrolled in a college course indicated that "lack of confidence" and "cost" were greater deterrents to participation. Nonenrollees also had lower mean scores for "self-confidence as an effective learner" and "creativity."

A regression analysis was employed to determine a possible prediction value of DPS-G factors according to SDLRS total and factor scores and selected demographic data. The greatest prediction variance was found for the DPS-G factor "lack of confidence."

The results suggest that there is a relationship between deterrents to participation and self-directed learning readiness and that the reduction of deterrents and enhancement of self-directed learning readiness could be effective mechanisms for increasing participation for higher education.

Recommendations for research include providing institutional activity to help adults overcome deterrents to participation and increase self-direction in learning. Studies concerning actual deterrents to participation should be conducted in order to create a more effective foundation for identifying educational programs and enhancing academic success. In addition, other types of higher education institutions and other socio-economic and ethnic groups should be studied.

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CHAPTER 1

INTRODUCTION

The United States is becoming a nation of adults, with an increasing number of students over the age of 25 enrolling in higher education. In terms of age, the National Center for Education Statistics (NCES) (1991) defines the adult learner as 25 years and older and indicates that the period from 1982 to 2002 will be one of change in the age distribution of college students. While the number of traditional college-age students ages 17 - 24 years old is projected to decrease 12% by 1998, the over 25 year-old group is expected to increase to 43.2% of the higher education population. The College Board (OALS Network News, 1989) estimates this figure at 45% by 1997. NCES data describes this adult student as a part-time, female undergraduate over 25 years old.

Beyond age and part-time enrollment status, adult learners differ from traditional age (17-24 years) in several other ways such as adults' characteristics and circumstances. Hughes (1983) outlines three basic characteristic differences between traditional and adult learners. First, adult learners have multiple commitments. These responsibilities include fulfilling certain social roles such as that of employee, spouse, parent, and citizen. Second, they are off-campus directed. As a result, adult learners may perceive formal education as only one of several priorities. Third, adult learners prefer informal learning.

Whichever definition of adult undergraduates and their characteristics is used in research or practice, higher education does not appear to be effectively reaching the current adult population. The participation rate of adult learners in formal education activity differs among studies and according to the definition of adult learner used. O'Keefe (1977) estimates a current participation rate of 17.5% among formal adult education learners. Chimene (1983) estimates that 16% of American adults will be involved in formal adult education by 1996. These figures place a majority of adults as nonparticipants in formal adult education. Even earlier, but broader definitions of adult learners, such as that used by Aslanian and Brickell (49% in 1980), Carp, Peterson, and Roelfs (33% in 1974), Johnstone and Rivera (22% in 1965), NCES (14% in 1984)), place the nonparticipation rate of adults at less than 50%.

Knowing how many adults participate in formal higher education does not explain *why* persons participate or do not participate. To participate is to take part in or join and implies involvement in a learning activity. According to Courtney (1991), the difference between the participant and the nonparticipant is that participation does not imply the need to overcome resistance to act as does nonparticipation. Merriam and Cafferella (1991) believe that viewing participation from the perspective of nonparticipation will help educators understand the reasons for nonparticipation in

formal education. These reasons for nonparticipation are considered barriers, or more recently, deterrents to participation: elements that prevent involvement in organized education.

There are several common characteristics of individuals that have been studied in relation to deterrents to participation. The most consistent characteristics have been age, gender, ethnicity, and educational attainment. With respect to age, Courtney (1991) outlines several important findings from past research: 1) that those persons under 35 years of age account for half or more of all adult participants with the age group of 25 - 34 comprising the largest group, and 2) there is a growing representation of those aged 55 - 64. Cross (1979) contends that not only is participation in organized education a clear function of age, but so is interest in participation. Cross, suggests that "the age factor is more likely to be perceived as a barrier by those who have never participated in continuing education than by those who have" (p. 84).

Gender is another characteristic with implications for participation/nonparticipation research. A study of deterrents to women's participation (Blais, Duquette, and Painchaud, 1989) indicated that women's participation in adult education was comparable to men, except for lower participation rates in work-related educational activities. This study also highlighted deterrents to participation

experienced by women and found that cost was a concern especially among women with children. In relation to priority levels for participation, women tended to envision continuing education activity as an encroachment on other areas of their life. Another important finding was that women in the study questioned the relevance of participation in credit programs. Finally, the need for affective support systems was high when confidence levels were low.

Concerning ethnicity, the National Center for Education Statistics (NCES, 1984) estimates that 91% of the participants in adult education are Caucasian (including Hispanic), 6.5% African-Americans, and 2.5% were "other." Figures over the past decade have shown that Caucasian participation in adult education has remained stable while minority groups have doubled their rate of participation. However, concerns about the Caucasian, middle-class bias of adult education still seems justified. While NCES data revealed substantial socioeconomic differences between African-American Caucasian learners, African-Americans had lower levels of educational attainment, earned lower incomes, and were more likely to be unemployed. However, the same data shows that while 44% of African-American participants had incomes lower than $10,000 in 1984, 67% of African-American nonparticipants were in the same category. Cross (1979) suggests that it is a common perception that since minorities make lower incomes than Caucasians, cost may be a strong deterrent to participation.

Cross (1979) believes that education attainment is "probably a better index to the interests, motives, and participation of adult learners than any other single characteristic" (p. 93). In a look at generational differences Cross (1981) states that: 1) 84% of persons between 20 - 24 completed four years of high school or more, 2) 66 % of persons between 45 - 49 completed four years of high school or more, and 3) 38% of persons between 70 - 74 completed four years of high school or more.

Over the years, researchers have developed a number of different classification schemes that organize deterrents to participation. Using adult learners as their sample, Johnstone and Rivera (1965) categorized "barriers" to participation as 1) situational: those barriers external to an individual's control and 2) dispositional: those based on personal attitude. Cross (1981) extended the categorization to include institutional barriers; those imposed by the institution. Darkenwald and Merriam (1982) further extended this classification to include informational barriers; those developed due to gaps in information availability. Other studies such as Darkenwald and Valentine (1985), Hayes (1988), Klevins (1978), Scanlan (1982), and Scanlan and Darkenwald (1984), further expanded the scope of classification to include deterrents faced by special populations.

Since 1984, Darkenwald and colleagues have developed a consistent line of research regarding the assessment of

deterrents to participation. In the line of research pertinent to this study, Darkenwald and Valentine (1985) developed a Deterrent to Participant Scale for the general adult population (DPS-G) which identified six factors that deterred the general public from participation in adult education: 1) lack of confidence; 2) lack of course relevance; 3) time constraints; 4) low personal priority; 5) cost; and 6) personal problems.

Researchers agree that deterrents to participation must be dealt with before an adult can participate in higher education. Because of the adult and traditional age population differences, and because of experiences adult learners bring to an educational environment, adults may not only face deterrents to participation within the classification schemes, but on the positive side, may have sophisticated insights into their own learning potential. Literature has suggested that adults have the ability to actively pursue learning, but only after deterrents to participation have been overcome to the extent that allows for participation. Hiemstra (1991), Candy (1991), Cross (1981), and Knox (1987), concur that in order for adults to become participants in any learning endeavor they must overcome deterrents to participation and that facilitators must encourage participation by offering numerous kinds of support, including efforts toward helping the student take responsibility for their own learning. The barriers or

deterrents to participation, which prevent full realization of self-direction in academic settings, need to be addressed since they impact participation and readiness for self-directed learning.

Many authors of adult education literature, including Candy (1991), Cross (1981), and Knowles (1975, 1980) stress that the challenge for adult educators is to assist people to reach their full potential by maximizing the opportunities to learn and by helping them accomplish their goals. Some believe (Combs, 1972) that the world we live in demands self-starting, self-directing citizens capable of independent action. Consequently, the goal of a learning society (Cross, 1978) should be to help adults become stronger, more self-motivated and self-directing learners.

This idea of learners taking an active part in their learning is implicit in the concept of self-direction and has gained a great deal of attention at all education levels in the past decade, but especially in the field of adult education. Researchers such as Boud (1981), Hiemstra (1980), Kasworm (1988a), Knowles (1975), and Tough (1979), have supported the encouragement of self-direction in institutional settings. Throughout Knowles writings, he promotes the encouragement of self-directed learning and, in his 1975 book, suggests that "self-directed learning is the best way to learn" (p. 10). Knowles also believes that teaching should have built-in provisions for helping the learner become more

self-directing. Unfortunately, while researchers have recognized the need for self-directed learning, adults may need help in maximizing self-directed learning skills.

As with deterrent to participation research, self-directed learning research has also delved into characteristics of adults affecting one's ability to become more self-directed. Studies on age and self-directed learning (Sabbaghian, 1979) indicated there is a great difference in the ability levels of older and younger adult students to direct their own learning. Sabbaghian's study concluded that as one ages one's ability to direct their own learning increases, their self-confidence increases, as does their eagerness to learn, their creativity in learning endeavors, and their view of learning as a lifelong beneficial process.

Many studies concerning self-directed learning concur Sabbaghian (1979) who found differences among male and females in regard to their ability to plan and direct their own learning, their love of learning, their self-image as an effective, independent learner, their degree of creativity, and their view of learning as a lifelong and beneficial process. Females tended to have higher levels of organizational skill, higher ability to direct their own learning, were more creative, and had higher self-concepts.

Although some researchers suggest that self-directed learning is primarily a white, middle-class phenomenon, other researchers disagree. Merriam and Cafferella (1991) contend

that most studies regarding ethnicity have been completed in anthropological tradition and has seldom been incorporated into adult education literature. There have been a few studies in self-directed learning which used more ethnically diverse populations such as Hassan (1982), Long and Agyekum (1983), and Umoren (1978). In one of these studies, Long and Agyekum used a sample comprised of nearly half African-Americans. These individuals scored significantly higher on readiness for self-directed learning than Caucasians. All three of these studies commented on the importance of further studies before ethnic conclusions regarding self-direction in learning could be drawn.

Studies involving self-directed learning and educational attainment have frequently reported populations with at least a high school education. In the few studies involving a less educated population, Brockett (1985) contends that for persons with less formal education, "self-directedness in learning may have evolved as a response to negative experiences in formal learning settings" (p. 22). Sabbaghian (1979) claims that there is a strong relationship between previous education and the ability to plan, organize and direct one's own learning activity.

Most of the studies cited above concerning characteristics of adult learners dealt with the notion of "readiness" for self-direction in learning. Merriam and Cafferella (1991) contend that this notion implies "an

internal state of psychological readiness to undertake self-directed learning activities" (p. 216). Guglielmino (1977) defines self-directed learning readiness as the extent to which individuals perceive themselves to possess attitudes, ability, and personality characteristics needed for self-direction in learning. Guglielmino also states that in order to be considered "ready" for self-directed learning efforts one must possess eight factors: 1) openness to learning opportunities; 2) self-concept as an effective learner; 3) initiative and independence in learning; 4) informed acceptance of responsibility for one's own learning; 5) love of learning; 6) creativity; 7) future orientation; and 8) ability to use basic study skills and problem solving skills. These eight factors, uncovered by Guglielmino, were the foundation for her Self-Directed Learning Readiness Scale (SDLRS) which determines adult readiness for self-directed learning. The factors were later revised by Sabbaghian (1980) to include, 1) love of learning; 2) self-concept as an effective learner; 3) tolerance of risk, ambiguity, and complexity in learning; 4) creativity; 5) view of learning as a lifelong, beneficial process; 6) initiation in learning; 7) self-understanding; and 8) acceptance of responsibility for one's own learning.

A model that holds promise for determining a connection between deterrents to participation and self-directed learning readiness is the "Personal Responsibility Orientation" (PRO)

model. Developed by Brockett and Hiemstra (1991), the model incorporates concepts of 1) self-directed learning: "instructional processes" (p. 26), and 2) learner self-direction: "personality characteristics of the individual" (p. 26). It is the idea of responding to a learning situation that is implicit in the personal responsibility concept of the model and it is this very idea that determines whether an adult will participate in a formal learning activity. Deterrents classified as dispositional, the internal feelings related to attitudes and self-perceptions about oneself as a learner, are related to the concept of personal responsibility of the PRO model. For example, if one lacks confidence in their ability to participate, or perceives the learning activity with low personal priority, or has personal problems that are difficult to overcome, then the person is less likely to enter the learning environment or take responsibility for their own learning. Consequently, self-directed learning readiness levels may be reflected in dispositional deterrents.

The progress of research has also added to the relationship between deterrents to participation and self-directed learning readiness. In 1961 Houle conducted a seminal study of 22 continuing learners and published his findings in *The Inquiring Mind*. Based on background and self-education efforts, Houle proposed a typology of reasons for participating in adult education activities and placed the

efforts toward self-education gleaned from his interviews into the typology.

In a retrospective look at research evolving from his 1961 study, Houle (1988) describes two areas of investigation that advanced research efforts beyond his 1961 work. This progression is detailed in Figure 1. Courtney (1992) suggests that as a result of this research movement originated by Houle, future organized adult learning research followed one of two directions: 1) a search for the conditions underlying participation or nonparticipation or 1) a search for learning orientations.

Nonparticipation/Participation Studies

One branch of research was directed toward the area of participation research. Houle (1988) describes this area of research as the "unconscious preparation which initiates a pattern of participation" and contends that the special opportunities which institutions of higher education provide:

> frequently do no attract enough learners to be maintained; the sponsors have little grasp of the reasons why programs do or do not strike responsive chords in potential learners. (p. 96)

Participants are those people whose act of participation does not require overcoming some resistance to action -- inability or unwillingness to act. Nonparticipants are those who view participation as too far removed from their normal actions to be an option -- they are not able or willing to act.

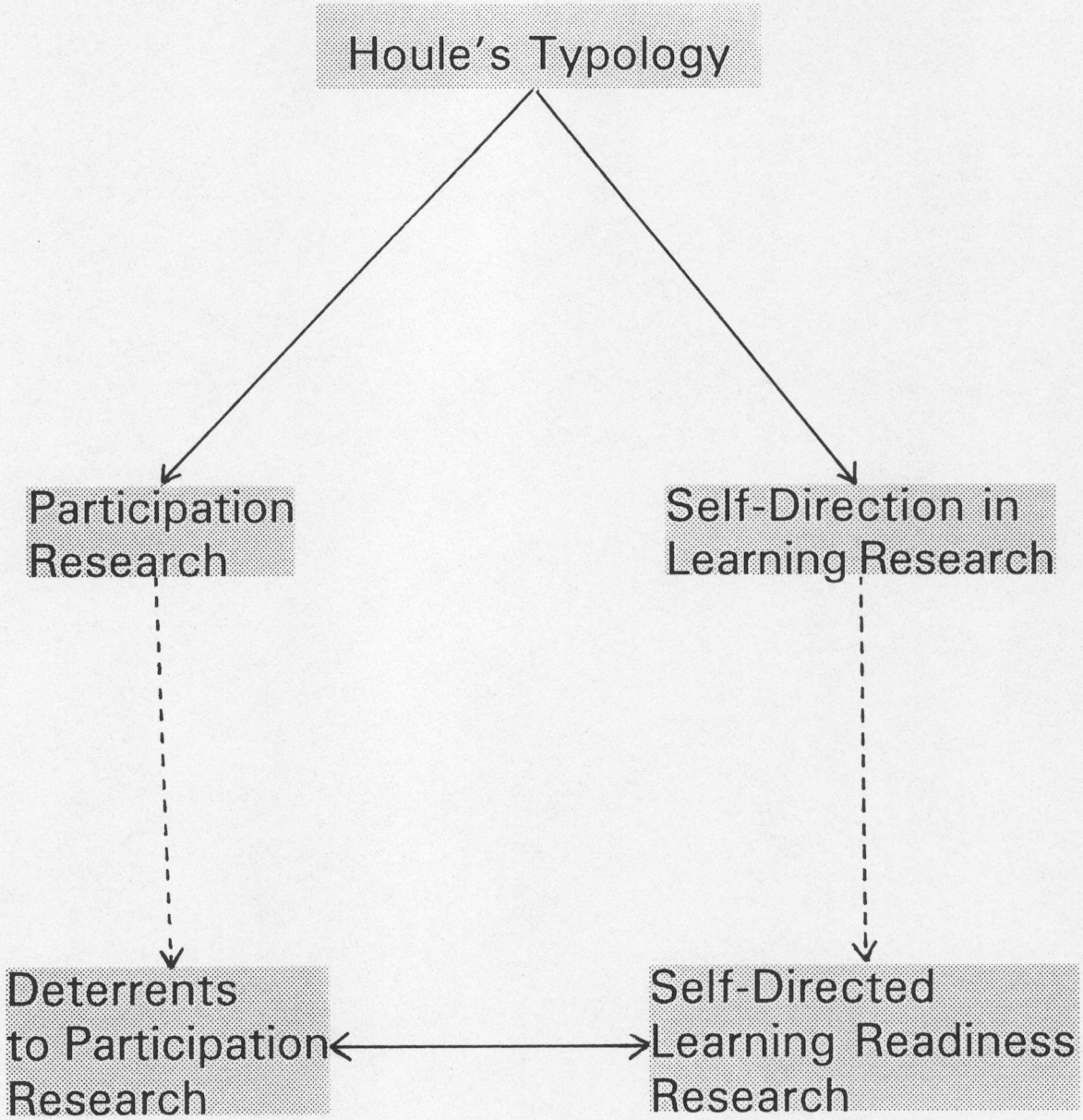


Figure 1. Interrelatedness of Houle's Learning Orientations and research involving deterrent to participation and self-directed learning readiness.

> For the learning process to occur, readiness to learn is not sufficient. Certain criteria have to be met. And for skill or knowledge competency to have consistency, recognition has to take place. (p. 45)

Many writers and researchers on barriers or deterrents to participation believe that deterrents to participation in education are directly related to participation. Darkenwald (1984) clarifies this association:

> Like reasons for participation, barriers or deterrents are varied and complex. Few adults are dissuaded from participation because of a single barrier or problem. Instead, the barriers an adult confronts tend to take the form of idiosyncratic configurations, and their potency bears a direct relationship to the extent the individual is motivated to participate. (p. 21)

Sheffield (1964) was one of the first researchers to expand Houle's idea of orientations to learning. He reported that two orientations, goal- and learning-oriented, had significant positive correlations with the extent of participation in continuing education activities. Solomon, (1964) commenting on Sheffield's work, concluded:

> these two orientations, "learning" and "personal goal" have substantial positive correlations with the extent of participation in continuing education activities; thus to a certain degree, participation in such activities could be considered an index of the possession of some of the orientations. (p. vi)

In a later attempt to expand on Houle's Typology, using Sheffield's reasons for participation, Boshier (1971) conducted a factor analysis of the motivational orientations of adult education participants and developed a 48-item Education Participation Scale. From this instrument,

Boshier identified 14 motivations and developed a model for participation in adult education. Boshier's study, linking participation with nonparticipation, concluded that participation stemmed from more complex motives than originally identified by Houle. Courtney (1992) agreed stating that it was a combination of orientations and not a dominant orientation that had the greatest power in predicting participation.

Although Houle's work was the pivotal point in participation research, some researchers believe participation research does not address why persons do not participate. Scanlan and Darkenwald (1984) contend that nonparticipation studies have evolved from participation studies in order to determine reasons for nonparticipation. Ordos (1980) believes motivation theory has not been successful in predicting participation behavior while Boshier and Collins (1985) suggested that research into reasons for participation should be supplemented by other directions.

It is difficult to get "intentionality" into a theory or model of behavior and, according to Courtney (1992), this is exactly what is missing from most participation models (p. 85). The problem of assuming that motivational theory will help predict participation behavior is questioned by Courtney.

> First, it is not at all clear that adult education is being provided for those who appear to need it

> most ... Second, research has been slow to establish the link between motivation and PAE (participation in adult education). (p. 8)

Courtney (1992) believes that participation may be best explained by a "theory of action," not motivation (p. 12). Nonparticipants are not only those who are unable to participate, but also those who chose not to become involved in adult education activities. Thus, according to Courtney (1992), the reasons why adults do not participate are implied in the way the activity has been defined. For example, Cross' (1981) COR model, discussed in Chapter 2, considers a person's perceptions of the importance of educational goals in combination with the removal of deterrents to produce participation in adult education. Courtney best describes this phenomenon in the following way: "Is not the man's 'reason' for enrolling ... really a combination of motive and something else: motive and opportunity to act, goal and the removal of a barrier?" (p. 85). The act of seeking reasons for participation generally only yields a list of goals without offering an adequate view of deterrents to participation. Courtney states that:

> Goals and benefits are not sufficient in themselves to distinguish between those who do and those who do not participate... What distinguishes between them ... may have more to do with a *tendency to action*, an attitude towards action ... than the fact that one had a motive for PAE [participation in adult education] and the other did not. (p. 85)

Courtney continues to suggest that current participation theory is a theory of action in disguise.

> Participants are those people for whom PAE does not mean an act requiring the overcoming of resistance: they are willing to act ... Non-participants, by contrast, may be those for whom PAE appears too far removed from their sphere of common actions to appear as a reasonable option. Non-participants may also be those who ... are not able to overcome resistance to that act. (p. 94)

Several other researchers have made a strong case for a connection between participation with nonparticipation. Beginning in the 1960's Johnstone and Rivera (1965) and Carp, Peterson, and Roelfs (1974) looked at reasons for nonparticipation. Boshier (1973) advanced a model linking nonparticipation to participation and Anderson and Darkenwald (1979) examined participation and persistence which later developed into Darkenwald and Valentine's (1985) work on the development of a factor structure for deterrents to participation. Still later, Darkenwald and Valentine (1990) modified the deterrents to participation scale. Cross' (1981) typology included the importance of removing deterrents before one could act on participation.

Self-Direction in Learning

The second major branch emanating from Houle's 1961 study dealt with research into self-directed learning. Houle (1988) considers self-directed learning to be another important topic or theme in the study of adult education, beginning with the work of Tough (1979). According to Houle, Tough's work has been "substantially ramified in many directions" (p. 92).

Tough, paved the way for adult learning programming by expanding Houle's work in order to determine the teaching tasks of adults during self-teaching efforts. The major focus of Tough's early work was to determine when the responsibility for planning and conducting a learning project was self-initiated. Tough found that nearly 70% of all adults' learning projects were self-planned. After Toughs's 1971 study, research into self-directed learning exploded.

As with deterrents, self-direction in learning also stresses the importance of assuming responsibility for one's actions. Implicit in the definitions of self-direction in learning is the ability of the learner to take the initiative for diagnosing needs, formulating learning goals and strategies, identifying resources, and evaluating learning outcomes -- an autonomous learner. Self-direction in learning allows for the appropriation of learning by the learner (Chene, 1983).

From the self-instruction work of Tough (Houle, 1980), the growth of research into the phenomenon of self-direction in learning began. An area of research growing out of self-direction study was self-directed learning readiness. This line of research has become important due to the desire to better understand adult learners' propensity for assuming responsibility for their own learning efforts.

Brockett and Hiemstra (1991) organize this enormous amount of research into three streams of inquiry as discussed

in Chapter 2: descriptive learning projects based on Tough's original study, measurement of self-directed learning readiness levels such as that of Guglielmino (1977) and Oddi (1984), and qualitative studies like that of Brookfield (1981), Gibbons, *et al.*, (1980), Kasworm (1988a, 1988b), Leean and Sisco (1981), Spear and Mocker (1984), and several dissertation studies including those of Cavaliere (1989) and Smith (1990). The line of research that has particular relevance to this study is the measurement of self-directed learning readiness.

Given the nature of the definitions for self-directed learning readiness and nonparticipation, these concepts seem to have commonality and disparity. Commonality in the sense that action or inaction seems to be at the core of both concepts. Disparity by the way that action is played out. If self-direction in learning assumes autonomy through action, can a nonparticipant be a self-directed learner? Or, if the development of a sense of personal control in learning is central to enhancing self-direction in learning (Candy, 1992), then what deterrents add to or detract from one's sense of self-directedness? Is it possible to understand one's level of self-directedness by understanding the perceived deterrents one faces? This study will attempt to look at these questions by exploring the relationship between deterrents to participation and self-directed learning readiness.

Statement of the Problem

As suggested previously, there is evidence to suggest that deterrents to participation prevent full realization of self-direction in academic settings. Therefore, the need to address these deterrents becomes important since they impact participation and readiness for self-directed learning.

Previous research has also indicated differences among specific demographic variables with regard to deterrents to participation and levels of self-directed learning readiness. In spite of the development of numerous studies about self-directed learning readiness, participation and nonparticipation, little is known about how characteristics differ among persons deterred from participation and their levels of self-directed learning readiness. Therefore, the problem to be explored in this study can be explained by the following questions: 1) Is there a relationship between deterrents to participation and readiness for self-directed learning? 2) Are there differences among nonparticipants in regard to perceived deterrents to participation and self-directed learning readiness levels?

Research Questions and Hypotheses

The main research question for this study is whether a relationship exists between specific deterrents to participation and one's self-directed learning readiness. Previous discussion in Chapter I, the review of literature in

Chapter 2, and the analysis of data in Chapter 4 address this relationship. The secondary research question for this study is whether differences exist between the Deterrents to Participation Scale - General (DPS-G) factor scores and the Self-Directed Learning Readiness Scale (SDLRS) factor and total scores when grouped according to specific demographic variables: gender, age, race, previous enrollment in a college course for credit, and years elapsed since last enrollment in a college course for credit. These research questions led to the development of the following research hypotheses.

A relationship exists between selected deterrents to participation factors and total self-directed learning readiness.

A relationship exists between deterrents to participation factors and self-directed learning readiness factors.

Differences can be found among deterrents to participation factor scores and gender.

Differences exist between self-directed learning readiness factor and total scores and gender.

Differences can be found among deterrents to participation factor scores and one's previous enrollment in a college course for credit.
Differences exist between self-directed learning readiness factor and total scores and one's previous enrollment in a college course for credit.

Differences can be found between deterrents to participation factor scores and age.

Differences exist between self-directed learning readiness factor and total scores and age.

Differences can be found between deterrents to participation factor scores and number of years elapsed since last enrollment in a college course for credit.

Differences exist between self-directed learning readiness factor and total scores and the number of years elapsed since last enrollment in a college course for credit.

Specific deterrents to participation can be predicted by any number of combinations involving self-directed learning readiness factors and demographic information.

Significance of the Study

The results of the study may have potential implications for educators involved in facilitating learner self-direction, as defined by Brockett and Hiemstra (1991), in academic settings and to administrators in higher education who are responsible for recruiting, admitting, counseling, and providing services for adult learners. Specifically, the study will make the following contributions to the knowledge base and to practice:

1. This study provides further refinement of an understanding of the relationship between deterrents to participation and self-directed learning readiness. An understanding of this relationship can help college faculty, academic advisors, and administrators in their efforts to recruit and to provide improved retention for adult learners and in efforts to help learners develop skills and attitudes associated with self-directed learning.

2. This study will add to the knowledge base concerning deterrents to participation. With the advent of the

Deterrents to Participation Scale (DPS), and its modifications for specific populations, it has become possible to examine the nature of deterrents to participation. The current study is the first to examine the concept of deterrents to participation with a population of adults who inquired into college academic programs, but never matriculated and the first known study to look at the relationship of deterrent factors to variables in addition to demographic. No attempt was made to discern matriculation after inquiry. Existing research hints at a relationship between deterrents to participation and other variables. This research will clarify one relationship with self-directed learning readiness.

3. If selected deterrents to participation are related to self-directed learning readiness, then the idea of reducing or eliminating deterrents to participation could have professional impact by offering educators a way to increase the potential for self-directed learning readiness, thereby, offering the possibility of greater success in participation endeavors within higher education.

4. This study will add to the knowledge base of the self-direction in learning concept. Relative to adult learners who inquired into academic programs at a private four-year college, this study will provide specific information about the SDLRS. In an effort to clarify the meaning of self-direction in learning, numerous researchers have addressed relationships between self-direction and other

areas. This study will continue to clarify the meaning of self-directed learning readiness by developing an understanding of its relationship with deterrents to participation and selected demographic variables.

Limitations of the Study

The major limitations of this study are:

1. The population was limited to adult learners as defined by Maryville College, Maryville, Tennessee who inquired about continuing education credit baccalaureate programs during a one year period between January 1, 1992 and December 31, 1992. No attempt was made to determine enrollment status during or after the inquiry period.

2. Because the adult population was voluntary and selected from one particular private four-year private college during a one year period, the results may not be generalizable beyond Maryville College students. However, it is believed that Maryville College is a relatively typical private college and its population of adult inquirers is representative of other private college inquiry bases.

3. A major criticism of the SDLRS is that it may not be appropriate for certain segments of the adult population, particularly those of low formal education attainment. No allowance was made in the selection of the population to rule out low education adults. However, respondents were required to possess a high school degree or the equivalent of a high school degree.

4. The ex post facto research design is another limitation of the study. Since the design does not involve the manipulation of the independent variable Kerlinger (1973) contends that control is lacking. Consequently, it is not possible to randomize. The value of using ex post facto research lies in studying non-manipulative variables such as intelligence, personality, and aptitude. Since self-directedness, as used in this study, is not manipulable the ex post facto design was believed to be appropriate.

5. The SDLRS and DPS-G both measure subject's perceptions and not actual behavior. Consequently, the potential limitation of the instruments through misrepresentation of the findings could present a problem. However, an understanding of the distinction between perceived and actual value should prevent any problems.

Definition of Terms

Adult: One who has or had a full-time occupation (including homemaker) for a minimum of two years or who had two years of post-secondary education and are currently employed (*Maryville College Evening College Catalog*, 1992).

Deterrents to participation: Those elements that prevent involvement in organized education. While the term "barriers" is often used in literature, Valentine and Darkenwald (1990) comment that the term "deterrents" has gradually come to replace the more traditional term "barriers" and that this change in terminology has been largely tacit. Operationally,

deterrents to participation is measured by the Deterrents to Participation Scale - General (DPS-G) developed by Darkenwald and Valentine (1985).

Self-directed learning: A process that centers on the activities of planning, implementing, and evaluating learning (Brockett and Hiemstra, 1991).

Self-directed learning readiness: The extent to which individuals perceive themselves to have attitudes, abilities, and personality characteristics needed for self-direction in learning (Guglielmino, 1977). Operationally, self-directed learning readiness is measured by the Self-Directed Learning Readiness Scale (SDLRS) developed by Guglielmino (1977).

Self-direction in learning: Learning that encompasses instructional method processes (self-directed learning) and personality characteristics of the individual (learner self-direction) where individuals assume responsibility to make decisions to be one's own learning change agent (Brockett and Hiemstra, 1991; Kasworm, 1988).

Organization of the Study

This dissertation is organized into five chapters. Chapter 1 has presented the introduction, statement of the problem, significance of the study, theoretical framework, research questions, assumptions and limitations, and definitions of terms. Chapter 2 will provide a review of selected literature to study the problem. It will be organized into two sections: deterrents to participation

research and self-directed learning research. Chapter 3 will describe the methodology used in the study, including an introduction, sample selection, research questions, data collection procedures, data analysis and a summary. Chapter 4 contains a presentation of the data and discussion of the findings. Chapter 5 will summarize the findings, state conclusions and make recommendations pertinent to adult education.

CHAPTER 2

REVIEW OF LITERATURE

In order to understand the concept of deterrents to participation and self-directed learning readiness this chapter is organized into two sections. The first section explores deterrents to learning. Of particular interest in this chapter, are reasons for nonparticipation. Although the term deterrent is commonly used in the most recent literature on nonparticipation, the terms barrier and deterrent will be used according to the usage of the author(s) cited.

The second section summarizes self-directed learning research through a three perspective approach as first used by Brockett and Hiemstra (1991). These three "streams of inquiry" include descriptive learning projects, measurement of self-directed learning readiness levels, and qualitative studies.

Deterrents to Participation

As mentioned in Chapter 1, organized adult education does not seem to be reaching all sectors of the adult population. Because of this phenomena, teachers and administrators of educational programs for adults should be concerned about why adults do or do not engage in education activities. Many researchers believe that the concept of participation suggests that within this process is a construct of nonparticipation or

deterrents to participation that addresses the needs of specific populations and their reasons for nonparticipation.

Deterrent Classification Schemes

Like reasons for participation, deterrents to participation, or barriers, are varied and complex. Few adults are prevented from participating in an educational activity because of a single concern. Several educators and researchers have developed classification schemes in an effort to organize deterrents to participation. Using the term barrier, Johnstone and Rivera (1965) utilized an interview technique to gather information concerning reasons for nonparticipation. Interviewees were shown ten statements or reasons for nonparticipation and asked whether or not each statement applied to them. The ten statements were divided in two categories: those based on influences external to the individual (environmental or situational) and those based on personal attitudes toward participation (internal or dispositional). Cost, time, and stamina were most frequently identified as constraints to participation.

In another effort to classify barriers to participation, Carp, Peterson, and Roelfs (1974) in their study of 3000 "would-be learners," used a list of 24 reasons for nonparticipation. In their study of adults' learning activities, interests, and needs, they found cost and time to be the most widely reported barriers to participation. Of the 3000 "would be learners," 53% indicated "cost" as the primary

deterrent to participation in adult education activities. Time (46%) was the second important reason for nonparticipation, and 32% of the sample indicated "home responsibilities" as a reason for nonparticipation.

Coinciding with Johnstone and Rivera's 1965 study, Carp, Peterson, and Roelfs (1974) found significant differences in perceptions of barriers to participation among those categorized according to gender, age, race, and educational attainment. Approximately twice as many men as women reported job responsibilities as a barrier to participation, while nearly 10 times as many women as men reported "lack of child care" as a barrier. In terms of age, the most important finding indicated that those under 35 years of age identified "cost" as a reason for nonparticipation, more than their older counterparts. Additionally, lacking confidence was cited as a deterrent three times more often than by individuals over 25. "Time" and "home responsibilities" were indicated as barriers twice as frequently among whites than nonwhites and twice as many nonwhites as whites cited "lack of confidence" as a barrier to participation. In regard to educational attainment, those with less than a high school education were three times as likely as high school graduates to identify "lack of confidence" as a deterrent to participation. Those with higher levels of education were less likely to cite dissatisfaction with educational programs, study skills, cost,

and anxiety as reason for nonparticipation and more likely to cite "time constraints" as barriers to participation.

Cross (1979, 1981) used a synthesis of data to develop a typology of barriers to participation in organized learning. In this typology she included persons who indicated they were not interested in pursuing continuing education activities. Cross believed this omission of nonparticipation from previous research efforts lowered the frequency with which barriers to participation were observed. In her typology, three categories of barriers were synthesized from over 30 studies: situational, institutional, and dispositional. The most often cited category was situational with "time" and "cost" being the most often reported constraints to participation. Her study also found that dispositional barriers such as "lack of ability" and "lack of interest" were most prevalent among adults who didn't participate in formal continuing education. The most prevalent complaints concerning institutional barriers were "inconvenient locations," "scheduling," and "lack of interesting or relevant courses."

Cross' study overcame two major weaknesses of earlier studies. Instead of the researchers generating reasons for nonparticipation as in previous studies, Cross used a synthesis of data to develop a typology. Second, unlike Cross' study, previous investigations had omitted persons who indicated they were not interested in pursuing continuing education activities.

Darkenwald and Merriam (1982) elaborated on Cross' typology and included informational barriers as a fourth category. Their reasoning for this was that they felt informational barriers did not derive from institutional deficiencies in promoting educational offerings. Darkenwald and Merriam also termed Cross' dispositional barriers as psychosocial, giving rise to four categories:

1. Situational barriers: Those barriers related to one's life context at any given time such as cost, time, child care, transportation problems, and work conflicts.

2. Institutional barriers: Those barriers erected by learning institutions that exclude or discourage certain groups of learners because of inflexible conditions such as restrictive location of learning environment, fee structure for full-time versus part-time students, and inconvenient format or scheduling.

3. Informational barriers: Those barriers that include problems with communication between the institution and student and the failure of students to seek and utilize the information that is available.

4. Psychosocial barriers: Individually held beliefs, attitudes, perceptions, or values that prevent participation in organized learning activity.

Specific Population Deterrent Studies

In addition to classification schemes, several studies of specific populations attempted to provide substantiation for

the inclusion of a deterrent construct in theories of participation.

Disadvantaged Adults

Through a review of literature, Anderson and Niemi (1969) examined the role of education in altering social and personal characteristics of disadvantage adults. Their analysis of the literature identified elements of fear and lack of perceived ability as major underlying causes for nonparticipation. The authors contend that barriers implied in the culture of disadvantaged adults must be overcome by helping them become aware of the "value of educational programs, develop a perception of their need for learning, and (develop) a consciousness of their own educational handicaps and deficiencies" (p. 61). They conclude that programs for disadvantaged adults should deal with the fundamental problems of overcoming and resisting education.

Blue-Collar Workers

Botsman (1975) reported on a Cornell University study of barriers among blue-collar workers in New York. Major barriers included transportation, administrative red tape, cost, and past school difficulty. Contrasts in barriers were found especially among gender, age, level of occupational skill, and amount of education.

Deterrents to Church Sponsored Programs

In other reports concerning deterrents to participation by special populations, Shipp and McKenzie (1980) surveyed 678 individuals using a 31-item "nonparticipation" scale to determine reasons for nonparticipation in church sponsored adult education programs. A test-retest procedure produced a reliability coefficient of .92. Factor analysis reduced the data to seven factors: 1) resistance to change and education; 2) alienation; 3) marginality; 4) social nonaffiliation; 5) perplexity/confusion; 6) program nonrelevance; and 7) activity incompatibility. The findings indicate two patterns of nonparticipation: 1) reasons for nonparticipation are complex given the heterogeneity of the sample; and 2) some aversion to program offerings existed. Recommendations included the development of marketing strategies that address the patterns established, and that administration understand client motivation. The authors conclude that "unidimensional strategies that omit the nonparticipation segment are seldom acceptable to the professional adult educator" (p. 192).

Women

While lack of time has been shown repeatedly to be a major deterrent to participation, Blais, Duquette, and Pinchaud (1989) found that there was a deeper reason attached to time constraints for women, such as low energy level and the refusal to reallocate time. The feelings of being overwhelmed with conflicting role demands, such as perceived

commitments, too much time to obtain credentials, infringements on personal life, difficult and time consuming working conditions, and lack of energy were identified by 1651 respondents. The findings conveyed the impression that the desire to preserve personal space and an unwillingness to sacrifice more time and energy were major concerns for women in the study. Blais, Duquette, and Pinchaud also found cost to be of particular concern to women with children and a poor work environment to be partly responsible for womens' negative feelings toward work-related educational learning.

Adult Basic Education

In other specific population deterrent studies Beder (1990) reported on reasons for nonparticipation in adult basic education (ABE) using a self-designed instrument. Four major reasons for nonparticipation were cited:

1) low perception of need;

2) perceived effort;

3) dislike for school; and

4) situational deterrents.

Beder's (1990) study was conducted on 129 Iowa adults who were eighteen and over, had not completed high school, and who had never attended ABE classes. The instrument for the study was a 52-question telephone survey. Findings support the contention that participation among prospective ABE adults is unlikely unless the perceived barriers are reduced.

Earlier studies by Boggs, Buss, and Yarnell (1978), Fingeret (1983), Glustrom, and Martin (1981), and Kreitlow, provided similar results indicating that situational barriers were prime reasons for nonparticipation among adult basic education prospects. Anderson and Darkenwald (1979) pointed out that most of these educationally disadvantaged persons were minorities.

Rural Adults

Charner and Fraser (1986) examined barriers to participation in adult education by summarizing local and state studies of rural adults. Barriers were classified according to situational, social-psychological, and structural. The study indicated that it is the better educated, employed, higher income adults who find fewer barriers to participation.

Sullins and Vogler (1986) also reported on barriers to rural adults in a six-state Appalachian region. Members of a steering committee representing six Appalachian states studied pertinent literature on barriers to participation, investigated specific problems and issues in the regions, and identified the most important barriers that inhibited rural adult participation in postsecondary education. Committee members also proposed actions that their states could take to overcome deterrents to participation. Results classified barriers into four categories:

1) policy;

2) dispositional;

3) situational; and

4) institutional.

The authors concluded that their findings confirm earlier reports on barriers to participation by rural adults such as cost, lack of child care, lack of transportation, inflexible scheduling, lack of information, and financial constraints. Two unique barriers to rural adult participation that were confirmed by this study were the absence of a cultural appreciation of the value of education, and the inadequate preparation for post-secondary education.

Gray and Sullins (1988), through a grant, later compared barriers of rural adults from the Appalachian study to the northwest region in order to provide leadership and support services needed to identify the specific problems faced in the region. Specifically, the purposes were to

1. define issues affecting the regions related to education access;

2. conduct policy discussion to establish plans to effect change;

3. identify regional policy makers for further interaction; and

4. to define services needed to provide adequate educational opportunities to the regions.

In the Appalachian region, barriers were determined through research efforts on the part of steering committees. The Northwest region used a Delphi telephone interview technique. No mention of sample size was indicated by the researchers.

Both regions showed similar results from the study. Ultimately, their intent was to develop ways to help persons overcome barriers to participation. Important factors in overcoming barriers were:

1) a good support system from the family and community, life experiences, determination to succeed;

2) rural adults were more likely to pursue education if they participated in re-entry programs;

3) geography and climate barriers were identified, but found to be overcome by persons of both regions;

4) cost was not an overriding consideration, but financial aid problems were;

5) lack of information was a barriers with both regions lacking information on programs, financial aid, and support services;

6) lack of counseling/advising was a significant barriers; and

7) course and facility availability.

In two other studies concerning rural adults ("Barriers to Education," 1989 and Easton, 1988), Delphi surveys were used to ascertain barriers to education programs faced by rural adults and to provide ways to reduce the barriers. In

the Easton (1988) study, a Delphi study of 217 participants was used to determine barriers to educational programs that affect rural adults and the changes required to improve access to education for rural adults in 13 western states. A total of 89 public policy statements were generated.

In the "Barriers to Education" study, the first Delphi round survey was sent to 798 individuals to identify barriers to rural adults' education and to propose action and policies to help overcome the barriers. The second round survey was sent to 196 of the 217 individuals that responded to the first round. The purpose of the second round was to investigate the extent to which respondents agreed on 78 deterrents and 125 proposed resolutions determined by round one. Of the 47 barriers determined by the studies, 22 were classified as institutional in nature, 13 as personal/institutional, and 12 as psychological, informational, or political. The most prevalent barrier was distance from facilities.

Older Adults

A study (Hiemstra, 1972) was conducted to determine the educational needs and interests of older persons who either resided in one of four separate residential centers in Michigan, Iowa or Nebraska, or who participated in programs sponsored by the centers. A questionnaire was mailed to 86 retirees, one part of which dealt with factors limiting participation. Eight deterrent factors were determined from the study: 1) transportation problems; 2) don't like to go

out at night; 3) can learn by self; 4) courses not interesting; 5) courses cost too much; 6) too much time involved; and 8) miscellaneous concerns. Implications for practice included recommendations that adult educators consider the aged to have special needs and interests, specifically, that their needs do not have to be met only through instrumental forms of education, and that additional research is needed to better understand whether findings can be generalized to older people in different settings.

In addition to Hiemstra's 1972 study, Flannery and Apps (1987) reported on a study of problems met by returning older graduate students. Using the "Barriers to Learning" instrument, developed by Schmidt (1980), Flannery and Apps examined the "degree of problems" returning older adults experienced. The 25-item instrument was constructed from a literature review of deterrents that could be classified as institutional, situational, or psychosocial. Flannery and Apps specifically assessed characteristics and problems of 91 newly enrolled University of Wisconsin graduate students over 25. The median age for "older" student was 30 years. Predominant barriers included stress, parking, and time constraints. Stress was "somewhat" of a problem for 57% of the respondents, while 33% considered stress as a "serious/very serious" problem, and 10% considered stress no problem. Parking was considered "somewhat" of a problem by 25% of respondents, 31% considered parking a "serious/very

serious" problem, and 44% indicated parking was no problem. The remaining top five barriers were "family time," "job time," and "immediate family time." In generalizing their findings, the results seemed to demonstrated that the major problems faced by older adults were related to their adult role situations.

A qualitative study, based on the naturalistic paradigm, was conducted by Peveto (1989) to determine why older adults did not participate in organized educational activities. Respondents ranged in age from 65 to 74 years and were members of seven senior centers in the Houston, Texas area. Several patterns were suggested by the findings:

1. a negative self-image deterred older adults from participation in organized education activities;
2. lack of interest in the kind of education offered superseded lack of interest in education in general (as reported in other studies);
3. self-directed learning was the preferred method of learning among older adults;
4. health and shorter time to live were two barriers respondents felt they had no control over; and
5. lack of formal education was not cited as a deterrent among older adults.

The study clearly points out that older adults do not participate in organized educational activities for two major

reasons; poor self-image and a lack of interest in courses offered.

The specific population studies discussed in this section are only a few of those that suggest common deterrents to participation in adult education activities; especially cost and time. Most researchers agree that the primary classification representing the major deterrents for adults is situational. It was also found throughout these studies that the primary contrasts in deterrents to participation are particularly dependent upon age, gender, and educational attainment. While men perceive job responsibilities as a primary deterrent, women feel child support and other family-related concerns are major deterrents. Age offers another contrast in that adults over 25 feel more constrained by psychosocial factors and as age increases, those over 35 consider cost as a predominant deterrent. Educational attainment has been cited by many researchers as a major factor in how one perceives participation in education activity. Generalizations from these studies indicate that the less education one has, the more deterrents one faces within all classifications, but especially in dispositional. In addition, as educational level increases, situational deterrents seem to increase, especially time. The studies also seem to indicate two important considerations: 1) it is imperative to reduce deterrents to increase participation; and 2) in order to more fully increase participation, removal of

deterrents should be based on the needs of special populations.

Deterrents to Participation Scales

While there are numerous studies dealing with how adult educational providers address deterrents or barriers to participation, no one instrument has become a dominant research tool for assessing deterrents to participation. This has occurred in part because of the lack of subsequent use by researchers other than the originators of the instruments. It wasn't until Darkenwald (1984) and other colleagues went beyond Scanlan's (1982) development of a typology of deterrents that a structure of reasons underlying nonparticipation was revealed. The work of Darkenwald and his colleagues led to the development of a Deterrents to Participation Scale (DPS) which assessed the factors underlying nonparticipation. The DPS instrument was first developed for health professionals by Scanlan and Darkenwald (1984), then modified for the general public by Darkenwald and Valentine (1985) for the general public (DPS-G), and later modified for low-literate adults (DPS-LL) by Hayes and Darkenwald (1988). The purpose of the original DPS and later versions was to identify "deterrent factors analogous to motivational orientation factors" and to "determine the utility of the deterrent factors in discriminating between participation and nonparticipation" (p. 155).

Scanlan and Darkenwald (1984) recognized the contribution of Houle's (1961) work which spurred theoretically oriented research on participation in adult education and which later led to Scanlan and Darkenwald's work in determining "underlying factors that dispose adults to engage in organized learning" (p. 155). Scanlan and Darkenwald also believe that Boshier and Collins' (1985) work involving a cross-cultural study of motivational orientations, which grew out of Houle's 1961 learner orientation typology, needed to be supplemented by new research. They make this contention because they feel neither Houle's work or Boshier and Collins' work was successful in predicting participation behavior.

In the development of the DPS, ten factors were initially extracted by principle components analysis. However, it was felt that a "more parsimonious solution" was necessary (p. 155). After using a Varimax procedure to rotate the original ten factors, a six factor solution was selected for representation of the data.

Scanlan and Darkenwald's (1984) investigation surveyed a population of 479 physical therapists, medical technologists, and respiratory therapists residing in New Jersey who were actively employed in their fields. Using a 40-item DPS, alpha reliability coefficients were calculated for six factors. They were .86, .81, .83, .78, .83, and .74 respectively. Since there is no total score for DPS instruments, only factor

reliabilities could be determined. The six deterrent factors identified for persons in specified health professions were:

1. Disengagement;
2. Lack of quality;
3. Family constraints;
4. Costs;
5. Lack of benefit; and
6. Work constraints.

Results from the DPS study (1984), indicated that all the deterrent factors, with the exception of the sixth -- "work constraints," were "strong predictors of participation" (p. 164). Scanlan and Darkenwald concluded that "the construct of deterrent is one of the few identified that contributes meaningfully to explaining variance in participation behavior." (p. 164)

In a follow-up study to 1984 investigation, Blais, Duquette, and Painchaud (1989) reported on deterrents to women's participation in work-related education activities. With a response rate of 80%, 909 practicing "francophone diploma nurses" were surveyed (p. 226). As mentioned earlier, they used a 50-item modified Deterrents to Participation Scale (DPS) utilizing clusters rather than factors. With a reliability of .89, respondents were asked to indicate to what extent certain deterrents had been influential in their decision not to participate in credit continuing professional education. A five cluster solution was reported which

indicated that "incidental costs," "low priority for work-related activities," "absence of external incentives," "irrelevance of additional formal education for professional practice," and "lack of information and affective support" were important deterrents to participation. The alpha reliability coefficient ranges for the clusters were: cluster one -- 1.73 to 2.38, cluster two -- 2.42 to 2.91, cluster three -- 2.10 to 2.60, cluster four -- 1.82 to 2.26, and cluster five -- 1.10 to 1.76.

The Blais, Duquette, and Painchaud (1989) study indicates which deterrents may prevent women from participating in adult education activities. While it seems that the proper DPS instrument was used for this sample, the implication that "women" and not practicing nurses which were used to draw inferences, may be over generalized. In terms of practice, results indicate a need for a "multidimensional approach" for increasing participation (p. 233). Regarding implications for research, replication of the study with women in nontraditional professions is recommended for comparison of samples.

In an effort to make the DPS generalizable to a broader population, Darkenwald and Valentine (1985) developed a generic form of the DPS, the Deterrents to Participation Scale - General (DPS-G). The 1985 study identified factors that deter the general public from participation in organized adult education activities.

The DPS-G was mailed to a random sample of 2000 households in Somerset County, New Jersey. Of the 2000 households, 215 responses were received for a response rate of 10.7%. The low response rate was anticipated and accepted as being of little importance to the study since no inferences were made to the total population of the county and no sample, except a random national sample, can be representative of the general adult population.

In developing the DPS-G, construction was not adapted from the DPS, but rather developed as a separate instrument. A 34-item DPS-G was obtained through a principal components analysis which extracted the initial factors. The final factors were determined by the Kaiser criterion with the Varimax procedure used to reach a final solution. After inspection of the rotated factors, a six-factor solution was selected to represent the data. Factor alpha reliability coefficients were determined for each respective factor: .87, .83, .72, .64, .75 and .40. The six orthogonal factors were identified as:

1. lack of confidence;
2. lack of course relevance (similar to the DPS's "lack of quality" factor);
3. time constraints (specific to course obligations, as opposed to family or work time competition as in the DPS);

4. low personal priority (lack of motivation or interest in engaging in adult education);

5. cost (identical to the DPS); and

6. personal problems (personal problems such as child care, health, and security).

Darkenwald and Valentine (1985) believe that the DPS-G factors:

> hold promise both for theory-building in the area of participation and for the development of practical strategies to increase the number of adults who engage in organized learning activities. (p. 187)

Martindale and Drake (1989) attempted to validate the DPS-G with 966 Air Force enlisted personnel, 60% of which were nonparticipants, to determine why enlisted personnel did not participate in voluntary, off-duty education. A principal components analysis was conducted and a Varimax rotation used. Item reliability, rather than factor reliabilities, were reported and were consistent with that of Darkenwald and Valentine's (1984) study. Martindale and Drake conclude with the suggestion that the instrument measured previously identified deterrents and identified eight deterrent factors rather than the six reported by Darkenwald and Valentine. The eight factors were:

1. lack of course relevance;

2. lack of confidence;

3. cost;

4. time constraints;

5. lack of convenience;

6. lack of interest;

7. family problems;

8. lack of encouragement.

Martindale and Drake (1989) interpret their findings as being congruent with other DPS study findings, but suggest that the factors, "lack of interest" and "lack of course relevance" are more clearly delineated than previous studies. As with other researcher who have modified or used DPS instruments, Martindale and Drake suggest that the construct of deterrents to participation should be used as part of a participation theory with a model including motivation, deterrents, and other environmental and dispositional forces.

In 1990 Valentine and Darkenwald used the DPS-G to "explicate the deterrence construct more fully by identifying and describing types of adults" (p. 31). Respondents were asked to rate the importance of each deterrent in their decision not to participate in organized adult education. Five factors were identified which described distinctive types of adults based on the six deterrent factors from the 1985 study. These five types, or clusters, focused on variables that distinguished each cluster from other clusters and from the whole group:

Type One: People deterred by personal problems;

Type Two: People deterred by a lack of confidence;

Type Three: People deterred by educational costs;

Type Four: People not interested in organized education;

Type Five: People not interested in available courses.

This study attempted to determine ways certain forces shape the lives of individuals in regard to their perceived deterrents to participation. Findings indicated that type one adults, representing 30% of the sample were deterred primarily by personal problems. Type two adults were deterred primarily by a lack of confidence in their learning ability. Cost consideration was the primary deterrent of type three adults and low personal priority the primary deterrent for type four adults. The final group was deterred primarily by a lack of relevant educational offerings. Three of these groups were primarily deterred by internal forces or dispositional factors and two by external forces or situational and institutional factors. Valentine and Darkenwald (1990) conclude that this typology of deterrent forces has practical and theoretical significance for adult education.

In a second new construction based on the DPS instrument, Hayes (1988) created a typology of low-literate adults in adult basic education (ABE) programs using the DPS-LL. The random sample of 160 ABE students in two New Jersey ABE programs were surveyed in order to develop a typology of the low-literate population and to aid in recruitment efforts. From a 32-item Likert-scale instrument, a typology of six types of low-literate adults were identified according to

scores on five deterrent factors. Principle components analysis was used to analyze the data from the students representing seven urban ABE programs.

Contrasts in the six types of low-literate adults were found with such variables as age, gender, employment status, number of children and educational level. The second largest group consisted primarily of young women deterred because of situational barriers associated with circumstance and barriers associated with low self-confidence. Another group was distinguished by a large proportion of older males (mean age 38.3 years) who were primarily deterred by a fear of failure and previous educational difficulties. A group with an unusually high rate of employment (84%), showed fear of negative response from others as a primary deterrent to participation. The smallest group scored lowest on situation barriers with prior educational difficulties and peer group pressures representing the most pronounced barriers. Persons who scored high on personal priority consisted of a group of primarily females who found family responsibilities and need for employment as deterrents. Finally, the least deterred group consisted of those who were higher educated and freer from responsibilities than other groups. Because clusters, rather than factors were determined, factor means were not available from the study. The mean ranges for clusters were:

1. factor 1: low self-confidence -- 1.35 to 1.80
2. factor 2: social disapproval -- 1.12 to 1.57

3. factor 3: situational barriers -- 1.39 to 1.78

4. factor 4: negative attitudes to classes -- 1.08 to 1.29

5. factor 5: low personal priority -- 1.23 to 1.76.

The six types of low-literate adults include those with little support from others, child care problems, little need for education, negative prior educational experiences, lack of time, and those with few deterrents. The implications of Hayes and Darkenwald's (1988) study indicate that the DPS-LL was another attempt at determining and reducing specific population deterrents, this time with low-literate adults. From a practical standpoint, all three instruments, the DPS, DPS-G and DPS-LL were useful in attempts to determine underlying deterrent factors for specific populations.

All studies using the DPS versions noted high reliability and validity of the instruments. The reliability coefficients for factor constructs ranged from .40 in the original DPS study to .87 in the DPS-G study. Item reliability for clusters ranged from 1.08 in the DPS-LL study to 2.91 in the Blais, Duquette, and Painchaud (1989) in the DPS study. Scanlan and Darkenwald (1984) suggest that the DPS has strong participation predictive utility with a strongly defined component of a deterrents construct. They further suggest that previous attempts at deterrent constructs by person such as Johnstone and Rivera (1965), Carp, Peterson, and Roelfs (1974), Cross (1981), and Darkenwald and Merriam (1982) among

others, underestimated the complexity of the underlying structure of deterrents. As an example, Scanlan and Darkenwald contend that the category of "situational" deterrents actually provides three variable sources: occupational constraints, family constraints, and cost. It is also interesting to note that the modified DPS instruments retained some similar clusters or factors such as "cost," various constraints, "low self-confidence," "low personal priority," and others which were subsumed under classification schemes provided by typologies such as that of Johnstone and Rivera, Carp, Peterson, and Roelfs and Cross. These typologies indicate the necessity of refining the DPS instruments for specific populations. Consequently, the usefulness of the DPS instruments is demonstrated through distinctive findings among research groups. Of those researchers who have commented on implication for practice and research, all agree that the DPS and its modifications was an effective way to assess deterrents to participation and that replication studies and continued specific population studies were needed in order to validate the use of a deterrent structure in participation theory.

In the previously stated DPS studies, several variables seemed to be related to perceived deterrents to participation. Deterrents to participation, as perceived by men and women, differ in most DPS studies and are similar to results discussed in the section on specific populations. While women

most often cite home responsibilities, cost of tuition and child care, and time as deterrents (external constraints), men most often cite low previous grades, low confidence, and lack of interesting offerings (internal constraints) as deterrents to participation.

Deterrents as perceived by older adults differ from younger and middle-aged adults. Life-cycle changes are reflected in family, job, and civic responsibilities, in personal goals, income, and health. These factors affect one's willingness to begin or continue formal education. In the studies of younger adults, reasons for nonparticipation often centered around being tired of school or having child care and job responsibilities. Older adults tend to be more concerned that the education meets personal goals than occupational considerations.

The degree of previous education was also cited as a variable affecting deterrents to participation. Persons who have more education are less apt to cite personal inadequacies than those who have less education. As Botsman (1975) pointed out, higher educated persons perceive more difficulties with the system than with themselves.

The DPS instruments were developed to address the concern or reasons for nonparticipation. Even when deterrents to participation are known and attempts to reduce or eliminate them are acted upon, the academic success of the student may still be in question. As Cross (1981) suggests, both the

potential learner and those responsible for facilitating learning should act to reduce deterrents in order to enhance self-directed learning efforts.

Self-Direction in Learning

Malcolm Knowles (1975) believes that self-directed learning is the best way to learn and that teaching should have provisions for helping learners become more self-directing. Specifically, facilitators of adult learning (Candy, 1991) must raise competence levels, increase academic rights and provide appropriate resources, all of which help facilitate self-directed learning.

Merriam and Caffarella (1991) contend that the importance of self-directed learning in formal settings is often overlooked since the very definition implies learning on one's own. While learners do have the primary responsibility for planning, carrying out, and evaluating their own learning experiences, it is possible for self-directed learning to be a vital force in shaping learning endeavors in more formal settings.

In today's society, rapid growth is a way of life. With this change, comes a demand for new ways to acquire knowledge. Dill, Crowston, and Elton (1965) argued back in the 1960's that the goal of education must be to shift to the learner the burden of pursuing their own education. Bruner (1961), also writing in the 1960's, stressed that in order to enhance retention of knowledge, transfer of knowledge, and interest in

continued learning, greater self-direction in learning was imperative.

With the demand for greater self-directed learning, came an outpouring of research endeavors, including ways to measure self-directedness among learners. In an historical view of research in self-directed learning, Brockett and Hiemstra (1991) contend that during the 1960's the number of descriptive research projects declined while the number of "original research articles" increased (p. 37). Beder (1985) suggested that two major areas of current research in adult education are in the areas of participation and self-direction. Both these research areas grew out of Houle's (1961) work on learning orientations.

In any assessment of self-directed learning, some individuals may not function effectively in situations requiring self-direction. Knowles (1975) feels this is particularly true of those persons who are submissive, have low conceptual level scores or do poorly with discovery approaches (Carlow, 1967), or those who are anxiously dependent (Cronbach, 1967). However, for the majority of persons, greater self-direction in learning enhances retention and transfer of knowledge and interest in lifelong learning (Bruner, 1961).

One way to explain research concerning self-direction in learning is to look at research paradigms. Brockett and Hiemstra (1991) organized the major categories of inquiry

into: 1) descriptive adult learning project investigations; 2) qualitative studies; and 3) research involving measurement of self-directed learning levels. Each of these are discussed on the following pages.

Adults' Learning Projects

During the 1970's, research concentrated on self-directed learning as a process where the learner assumed primary responsibility for planning, implementing, and evaluating a learning experience. During this era, work such as that of Carp, Peterson, and Roelfs (1974), Johnstone and Rivera (1965), Penland (1979), and Tough (1979) provided methodological foundation for repeated inquiry into the frequency of self-planned learning endeavors. Inspired by Houle's (1961) study of learning orientations, and challenged by Verner's (1964) work that viewed self-directed learning as being incompatible with adult education, Tough (1967) began his work into learning projects.

Many studies of the 1970's dealt with the learning projects of special populations. According the Brookfield (1990), most research throughout the 1970's dealt with self-directed learning that was characterized by the use of "structured interview schedules, questionnaires, prompt sheets, and measurement scales," the majority of them modified versions of Tough's work (p. 52). Tough (1978) incorporated interview schedules to assess the learning projects of his sample. He defined a learning project as "a highly deliberate

effort to gain and retain certain definite knowledge and skill, or to change in some other way" and as a "series of related learning session" that "add up to at least seven hours" (p. 250).

The 66 individuals involved in Tough's (1971) study, were comprised of seven sections of the population:

1. blue-collar workers;
2. women in lower level white-collar positions;
3. men in lower level white-collar positions;
4. beginning elementary school teachers;
5. municipal politicians;
6. social science professors;
7. upper-middle class women with preschool children.

The participants were surveyed on their prevalence of self-planned projects and on their range of learning activities. The methodology used was a learning projects interview which asked questions pertaining to individuals' recollection of learning projects. In order to prompt recall, interviewers were trained in both the interview format and the concept of learning projects. Findings indicated that the mean number of projects was 8.3 with all but one of the 66 individuals reporting at least one learning project.

In more specific findings, social science professors reported the highest number of learning projects with 11.5 elementary school teachers reporting 9.0 projects. Blue collar workers undertook an average of 5.5 projects while

municipal politicians spent 7.0 hours in learning projects. The mean for individual projects was 104 hours.

In relation to the range of learning projects undertaken by participants, the major reasons cited were job preparation, maintenance of job skills, solving specific problems or tasks on the job, gaining knowledge and skill in regard to one's personal development or responsibilities, and learning because of interest. While 68% of the projects were planned by the participants, 12% were planned by another person, but on a personal basis. Nonhuman resources as planner was indicated in only 3% of the projects. In conclusion, Tough (1979) suggested that the key to remaining a self-directed learner is the acceptance of responsibility for everyday decisions concerning one's learning activity.

In continued learning projects research, Allerton (1974), investigated the self-directed learning pursuits of 11 Protestant parish ministers in Kentucky. A learning activities diary was used to collect data over a six month period. A total of 106 learning projects were conducted during this period with a mean of 9.6 projects per participants, compared to 8.3 in the Tough (1971) study. Reasons for nonparticipation in credit programs included cost and time. Allerton concluded that self-directed learning efforts actually substituted for a shortage of time and money necessary in credit programs.

In another early study conducted by Peters and Gordon (1974), 277 adults in the urban area of Knoxville, Tennessee, and 149 residents from the rural Monroe County, Tennessee were interviewed regarding their learning projects. An interview technique devised by Tough (1971) was used to probe adults' learning project activities over a one year period. Urban residents completed an average of 4.1 learning projects, while rural adults completed an average of 3.1 projects, both well under those of Tough (1971) and Allerton (1974). An interesting finding from this study was that three-fourths of the respondents directed their own learning projects, but nearly one-half of those eventually needed help in completing their project. In addition, rural adults had lower levels of awareness of educational opportunities and cited lack of available resources and cost as major impediments to their participation in educational programs.

Suggested research directions by Peters and Gordon (1974) included additional studies of different population groups and a focus on ways adults organize their learning projects. In regard to deterrents to participation, Peters and Gordon suggested that educators understand adults' coping behaviors in order to reduce deterrents. Suggestions were also made to increase research endeavors into adults' program planning efforts and to develop a fuller understanding of self-directed learning.

In a study involving Adult Basic Education (ABE) classes and learning projects, Baghi (1979) identified learning projects of 46 ABE students in Iowa. A revision of Tough's (1970) interview schedule was employed to determine the number of projects and reasons for choosing the project, types of projects, hours spend on each project, the major planner, and method of self-planned learning employed. Respondents reported an average of 6.59 learning projects during a one-year period and spend 393.91 hours per person in their learning endeavors. The majority of projects were self-planned with the group as planner. Conclusion drawn include the necessity for an acceptance of self-directed learning as a major adult education goal for ABE students and that self-planned learning is best transmitted using reading and conversation. Further research suggestions included using varied ethnic groups, discovering "obstacles" to self-planned learning, and research into environments that contribute to self-planning efforts.

Other studies that have added to the knowledge base of adults' learning projects include those dealing with college administrators (Benson, 1974), mothers of preschool children (Coolican, 1975), teachers and store managers in Ghana (Denys, 1973), elementary school teachers (Fair, 1973), low literacy (Field, 1977) pharmacists (Johns, 1973), adults who recently completed high school or the General Education Development Certificate (GED) (Johnson, 1973), secondary school teachers

(Kelly, 1976; McCatty, 1976), learning projects of professionals (McCatty, 1973), Cooperative Extension agents (Miller and Botsman, 1975), general population (Penland, 1979), self-concept (Sabbaghian, 1979), socioeconomic status (Umoren, 1977), and adult educators (Zangari, 1977).

The growth of learning projects research encouraged adult educators to effect positive change in adult behavior and education opportunities. Tough's contribution to adult education, and other professions and fields of study, is evident in the numerous follow-up studies using his methodology. Merriam and Cafffarella (1991) point out that Tough's model became the basis for additional studies in self-directed learning.

Qualitative Studies

Brockett and Hiemstra's (1991) second stream of research consists of qualitative methods such as participant observation and interviewing. Studies concerning qualitative research included that of Brookfield (1981), Cavaliere (1989), Gibbons, *et al,* (1980), Kasworm (1988b), Leean and Sisco (1981), Smith (1990), and Spear and Mocker (1984). Gibbons, *et al* and Brookfield challenged the notion of linearity in self-directed learning and researched nonformal learning situations. Gibbons, *et al,* in a biographical study of 20 persons who had little formal education, maintained that despite their lack of education, they contributed to their

respective fields. Some of these individuals were Muhammed Ali, Charlie Chaplin, Walt Disney, Henry Ford, Harry Truman, and the Wright brothers. Gibbons, *et al,* categorized these individuals according to four fields:

1. entertainers;
2. inventors, explorers, and creators;
3. people with letters of science and philosophy; and
4. administrators.

Biographies of these 20 people were analyzed according to their nature, life, and times. From the 154 emerging themes, a list of 40 prominent characteristics were drawn regarding self-directed learning. This finding eventually led to 14 principles that the researchers felt contributed to a theory of self-education. While this research has not been utilized in other qualitative studies, it did contribute to research methodology by placing emphasis on qualitative research practices.

Cavaliere continued Gibbons *et al,* work (1980) with an analysis of biographical data of individuals over a 28 year period. Both the Gibbons, *et al*, study and the Cavaliere's study (1989) supported the idea that self-directed learning does not occur in psychological, physical, or social isolation; that it is a process by which individuals can take control of learning endeavors.

As in the Gibbons, *et al* (1980) study, Brookfield studied 25 adults who were considered experts in their

respective fields. Unlike the 1980 study, Brookfield's research was concerned with learning projects within each person's area of expertise and studied current notables rather than those no longer living. Criteria for inclusion were based on being awarded "the acclaim of fellow enthusiasts" and having attained success "without participation in externally planned" instruction (p. 17).

Several conclusions or themes, as Brookfield (1981) described them, emerged from his research.

1. attitude toward learning: viewed by participants as continual or lifelong;
2. attitude toward limitations: viewed by participants as being open with no boundary constraints to limit their study; and
3. attitude toward personalization of their work: participants viewed their work as something to be shared and developed cooperatively with others who shared their interest.

Brockett and Hiemstra (1991) believe that it is, perhaps, the ideas of cooperation and competitiveness apparent in Brookfield's sample that has provided a contribution to the study of self-directed learning.

In Brockett and Hiemstra's (1991) description of qualitative approaches to research in self-directed learning, they contend that some of the most important studies in self-directed learning have used qualitative methodology. In

addition to the Gibbons, *et al,* (1980), Cavaliere (1989), and Brookfield (1981) studies concerning qualitative approaches to formal preparation, Leean and Sisco (1981) studied planned learning. They selected 14 active rural individuals based on age, gender, and educational background and studied the influences on the lives of their participants.

While previous qualitative studies investigated self-directed learning as a process, qualitative studies such as those of Spear and Mocker (1984) concentrated on whether self-directed learning included preplanned learning as a part of the self-directed learning process. Spear and Mocker interviewed 78 self-directed learning individuals and proposed four categories comprising lifelong learning.

1. formal: no control over objectives or means of one's learning;
2. nonformal: control over objectives, but not means;
3. informal: control over means, but not objectives; and
4. self-direction: control over both objectives and means.

The four categories were used to distinguish patterns of the process involved in organizing characteristics. One of the most beneficial findings from this study was "how the structure for learning is constructed and how and why self-directed learners make their decisions" (p. 8).

Spear and Mocker's (1984) study identified self-directed learning based on a matrix of the lifelong learning process. In contrast, Kasworm (1988a) supported the notion that self-direction is a continuum of involvement. In regard to this continuum, most researchers up through the 1980's concentrated on non-institutional settings for self-direction activity, Kasworm, however, emphasized that self-directed learning can take place within more formal settings.

Working with graduate students, Kasworm (1988a) conducted interviews to determine whether there was any potential for self-directed learning in the graduate classroom. Building on that premise, Kasworm continued her investigation with 10 randomly selected part-time undergraduate adult learners who held full- or part-time jobs. From the responses to the interviews asking for personal examples of self-directed learning in credit courses, Kasworm developed four patterns of responses which indicated that it is possible for self-direction to be a vital part of formal learning activity.

Another qualitative study pertaining to formal learning was conducted by Smith (1990). Smith analyzed qualitative data from 22 public librarians in order to ascertain the role of the facilitator in self-directed learning. Findings indicated a concern for the library environment as conducive to learning, librarians themselves as being facilitators of the development of confident learners, the resources of the library as relevant informational sources, and a concern for

the interaction of librarians with learners. While the study was confined to a small sample of a specific population, it does address the importance of facilitation on self-directed learning efforts.

The studies mentioned in this section have progressed to a more complete form of assessing self-directed learning; ways which Brookfield (1990) believes have the potential for considering critical reflection, "the exploration of alternative perspectives and meaning systems, and the alteration of personal and social circumstances" (p. 58-59).

In a synthesis of the literature, Merriam (1989) discussed contributions of qualitative research to adult education in general, but did not list any studies specific to self-directed learning. However, as Brookfield (1982) points out in his analysis of research philosophies in North America, qualitative methods have yet to be widely reported in published research.

Measurement of Self-Directed Learning Levels

An area of research that has gained considerable momentum in the past decade is the assessment of people's propensity and ability for self-directed learning. Two of the best known measurements of self-directed learning are the Oddi Continuing Learning Inventory (OCLI) (1984) and Guglielmino's Self-Directed Learning Readiness Scale (SDLRS).

The Oddi Continuing Learning Inventory

The Oddi Continuing Learning Inventory (OCLI) (1984) was developed to measure self-directed continuing learning as a personality construct. The OCLI uses a theoretical framework based on a "personality construct influencing the involvement of the individual in learning through various modes over prolonged periods of time" (p. 42). Three clusters or personality dimensions of self-directed continuing learners were ascertained:

1. self-confidence;
2. ability to work independently; and
3. learning through involvement with others.

While the OCLI has been used in only a few studies, several attempts have been made to investigate validation issues relative to the study. Shaw (1987) administered the OCLI and the Measure of Epistemological Reflection (MER) to 100 randomly selected students at Montana State University. She reported a significant positive correlation between scores of the two instruments and between age and class rank.

Another study was that of McCoy (1988). This investigation focused on the influence of self-directedness in learning and participation in continuing education activities. Using clinical laboratory science professionals, McCoy found that environments that mandated continuing education did not appear to influence OCLI scores.

Six (1989a), in a study of 2-year business college students concluded that the OCLI was not an effective predictor of self-directed learning behavior in a formal classroom setting. In a follow-up study of three factors of the OCLI, Six (1989b) recommended that efforts be conducted to improve the measuring properties of the OCLI and of self-directedness in learning.

The OCLI was also used in an investigation by Blackwood (1989). This study focused on the relationship between self-directedness and hemisphericity. The sample consisted of 390 persons of various ages and who were currently involved in a learning endeavor. A significant positive relationship was found between scores on the OCLI and the Refined Wagner Preference Inventory (WAPI II) which measures brain hemisphericity. Increasing age was also found to correlate with greater self-directedness and with left hemisphericity.

Landers (1990) initiated a study to compare another instrument, the Self-Directed Learning Readiness Scale (SDLRS), and the OCLI. While Landers found that the eight factors of the SDLRS correlated significantly with total SDLRS scores, he found a significant positive correlation between only two of the three OCLI factors and total OCLI score. In addition, Landers found the internal reliability of the scale to be weak and concluded that the SDLRS was preferred over the OCLI in respect to measuring self-directedness.

Several researchers (Candy, 1991; Landers, 1990; and Six, 1989a) have commented on concern of applicability of the SDLRS and OCLI to measuring self-directedness. Candy suggests that the OCLI suffers from many of the same criticisms as the SDLRS, but believes it to be more appropriate to the domain of independent, non-formal study. Brockett and Hiemstra (1991) concur that "only through further research will it be possible to confirm, refute, or modify the legitimacy of these concerns" (p. 80).

Self-Directed Learning Readiness Scale

The Self-Directed Learning Readiness Scale (SDLRS), developed by Guglielmino (1977) is a 58-item, Likert-type scale designed to gather data on learning preferences and attitudes toward learning. It was devised through a three-round Delphi survey of 14 leading authorities on self-directed learning who were asked to name and rate characteristics they considered important for self-direction in learning, including abilities, attitudes, and personality characteristics. The survey was designed to identify factors involved in self-directed learning readiness.

After revision of the original instrument, a 58-item Likert scale instrument was administered to 307 subjects in Georgia, Virginia, and Canada. The subjects included 95 high school students, 180 college undergraduate students, and 32 persons attending continuing education courses. A reliability

of .87 was estimated. Factor analysis indicated eight factors in self-directed learning:

1. love of learning;
2. self-concept as an effective, independent learner;
3. tolerance of risk, ambiguity, and complexity in learning;
4. creativity;
5. view of learning as a lifelong, beneficial process;
6. initiative in learning;
7. self-understanding; and
8. acceptance of responsibility or one's own learning.

In developing her instrument for measuring self-directed learning, Guglielmino (1977) assumed that self-direction in learning exists along a continuum and that it is present in everyone to some degree. She contends that the degree of self-direction and the potential for utilizing self-direction in a given situation is determined by one's attitude, values, and abilities.

SDLRS Validation Studies

Many studies have used the SDLRS as a research instrument. Torrance and Mourad (1978) first reported support for its construct validity. They selected ten items from the SDLRS and completed a pilot study of gifted school-age children. The findings suggested that gifted children perceive themselves as possessing high self-directed learning skills.

In another study, which attempted to validate the SDLRS, Mourad (1979) compared SDLRS scores of gifted students to scores on a teacher rating for independence in learning. Significant relationships were identified between teacher ratings and seven of the SDLRS factors. Differences were found on SDLRS scores among elementary, junior, and senior high students and between gender.

In other attempts to validate the SDLRS, Sabbaghian (1979) found a significantly positive relationship between SDLRS scores and self-concept when the SDLRS was used to measure the relationship between adults' perceived self-directedness and self-concept. However, the instrument failed to demonstrate that the factor, "acceptance of responsibility for one's own learning" was related to self-concept. Savoie (1980) identified a significantly positive relationship between course grades and scores on the SDLRS. Hassan (1982) and Skaggs (1981) attempted to determine a relationship between SDLRS scores and amount of involvement in learning activities. Both studies found a correlation between number of learning projects completed and higher SDLRS scores. Wiley (1982) using a sample of baccalaureate nursing students and Kasworm (1988a) using a sample of graduate students determined that self-directed learning activities contributed significantly to differences between pre- and post-test scores on the SDLRS.

Brockett (1983a) used the SDLRS to measure self-directed learning readiness among older adults. The study of 64 adults who were at least 60 years old and living in two different elderly residential settings concluded that the relationship between life satisfaction and perceived self-direction in learning readiness was significant ($r = .24$), but statistically weak.

The study raised questions concerning the feasibility of the SDLRS for use with special populations. Brockett (1983a, 1983b, 1985a) cautioned that the SDLRS may be a questionable measure of self-directed learning, particularly when used with subjects who have had little formal education. He based this concern on an analysis of methodological and substantive issues associated with the SDLRS. In a closer look at the SDLRS, Brockett (1985a) identified problems relative to SDLRS's format and layout. After conducting an item analysis of the scale with item-to-total correlations, he found that 12 of the 58 scale items did not correlate significantly with total scale scores. Another problem uncovered was that 17 of the 58 items were written to be scored in reverse, causing confusion in scoring. A third problem involved the wording of the response choices. Brockett and Hiemstra (1991) believe these methodological concerns raise important questions concerning the appropriateness of the SDLRS for certain adult populations and that the SDLRS is highly orientated toward formal education that relies on knowledge learned through books.

As in the Brockett (1983a, 1983b, 1985a) studies, Curry (1983) also found several significant differences in SDLRS scores based on educational background in a study of 300 older adults who were engaged in formal learning activities. One group of 174 older adults were involved in elderhostel programs and 126 older adults were from a senior center. Significant differences were found among such variables as gender, marital status, educational background, self-reported measures of intellectual functioning, learning and health, self-help groups, and health and life satisfaction. No significant differences were found among the variables of age and socio-economic status.

Long and Agyekum (1983) conducted a study on 136 college students in an attempt to provide evidence of the construct validity of the SDLRS. A comparison of SDLRS scores was conducted with age, educational level, dogmatism, and agreement response set. Respondents also rated college instructors on self-direction in learning according to the Gugliemino (1977) scheme. One uniqueness of this study was that nearly half the sample were African-Americans. While African-American students scored significantly higher on the SDLRS than white students, Long and Agyekum warn that a comparison of racial groups is dangerous since the differences that favor African-Americans seem to be associated with psychological differences influenced by performance on questions pertaining to dogmatism and agreement response set.

A second study by Long and Agyekum (1984) replicated the first, but used a different teacher-rating instrument. Long and Agyekum found the SDLRS scores were not significantly related to instructor ratings in either study. In addition, scores were not related to dogmatism, but they were related to age.

In another study of construct validity of the SDLRS, Finestone (1984) used a sample of participants in a labor education program. Contrary to findings from other studies, Finestone found no significant differences on SDLRS scores according to level of formal education.

Leeb (1983), in a study of 35 adults between the ages of 21 and 55 with a tendency for health promoting behavior, found that 11 SDLRS items did not correlate significantly with total scores. She did find a positive correlation between people who demonstrate positive health behaviors and self-directed learning scores, due in part perhaps, to the fact that most of Leeb's sample had completed four years of college at the time of her study.

Reynolds (1984), undertook a study of 95 part-time community college students and found a relationship between learner self-directedness and learning for the enjoyment of learning. Using the Education Participation Scale (EPS), he found a significant positive correlation between SDLRS score and the EPS factor, "cognitive interest." Of particular interest was his assertion that self-directed learning

readiness may be associated with learning for the sake of learning.

In a later investigation, McCarthy (1986) examined the relationship between self-direction and attitude toward mathematics among 183 undergraduate students who were at least 26 years old. Results showed a significant relationship between the older students and SDLRS scores, but not between SDLRS scores and attitude toward mathematics. Many other recent studies did not find significant relationships between SDLRS scores and specified variables such as locus of control (Skaggs, 1981 and Young, 1986), achievement (Russell, 1989), secondary school children and their teachers (Eisenman, 1989).

As is evidenced by a review of studies concerning the SDLRS, many of these studies show inconsistent findings resulting in much criticism of the SDLRS. Spurred by this criticism, Long (1987) conducted an item analysis of the SDLRS and concluded that earlier criticisms of the SDLRS may be due more to the nature of the sample than to limitations of the instrument.

The relationship between the SDLRS and other variables has been examined and a relationship established between SDLRS and other variables. Additional studies confirm this relationship such as those involving course grades (Crook, 1985 and Savoie, 1980), grade point average (Box, 1983), and selected academic or professional success variables (Cafferella and Cafferella, 1986; Graeve, 1987; Kasworm, 1982;

Middlemiss, 1988; Moore, 1986; Murray, 1988; and Palumbo, 1990).

SDLRS Criticisms and Contributions

While much support for the use of the SDLRS has been implied by the studies described in this section, there have been criticisms of its validity and reliability (Bonham, 1991; Field, 1989; Long and Agyekum, 1983; and McCune, 1989), its format the wording of some of the questions (Brockett, 1985a) and its appropriateness for certain adult populations (Brockett, 1983b; Brookfield, 1984; Cafferella and O'Donnell 1987; Leeb, 1985; and McCune 1989).

A rather lengthy and controversial discussion in the Adult Education Quarterly focused on the SDLRS and its validity and reliability. Field (1989) questioned the use of the Delphi technique, the definition of readiness and self-directed learning, the use of negatively phrased items, and the revision process. In concluding remarks, he states that "the SDLRS does not measure readiness for self-directed learning" (p. 100). He felt justified in this contention because of the "serious flaws" in the instrument (p. 102).

Field's critique prompted a response from Guglielmino (1989) who defended the techniques used, admitted some inherent problems with any scale, and criticized Field's method of critique. In her rebuttle, she claimed that "Field's criticism is not constructive" because "his own data fail(s) to support his conclusions" (p. 239). A claim was

made for the "strong evidence of the reliability and validity of the SDLRS" and that it was the "best" instrument available for assessing self-directed learning readiness (p. 239).

Long (1989) also responded accusing Field of inadequate review of the literature on self-directed learning, inaccurate descriptions of the literature, and inclusion of references that were "misleading" or "lifted out of context" (p. 241). These criticism led Long to proclaim that Field was "nit-picking" (p. 242).

McCune (1989) also jumped on the bandwagon in support of Guglielmino's study asserting that Field's criticism was based on inadequate or weak statistical applications and that the SDLRS should continue to be used in adult education research. She was particularly concerned with two issues. First, Field's statistical analysis, which he used as a foundation for his criticisms of the SDLRS's validity and reliability, was questioned. Second, McCune contended that Field used a "modified" version of the SDLRS in his analysis rather than the standard version of the scale.

Later criticisms were raised by Bonham (1991) concerning the construct validity of the instrument. She gave several examples of questions that represented the "opposites of readiness for self-directed learning" (p.92). Bonham suggested that the SDLRS might be equating "self-motivated" with "self-direction," since "the opposite being measured by the SDLRS is actually dislike for learning or lack of

motivation for any kind of learning" (p. 95). She concluded that a better understanding of the SDLRS might be enhanced by considering the meaning of low scores and what they represent and by further quantitative and qualitative validation studies. She suggested that a more accurate name for the SDLRS might be "Learning Readiness Scale" (p. 98).

As mentioned earlier, Brockett (1985a) has raised concern about the format and layout of the SDLRS. He maintained that many of the respondents to a 1983 study were confused and frustrated with the wording of the SDLRS. He also mentioned that since 17 of the 58 items required reverse ordering for scoring purposes, confusion might arise in the scoring process.

Most researchers will agree that any objective-type instrument that assesses a nonlinear process such as self-directed learning, is often open to criticism. It may be that any study of a process should be conducted utilizing more qualitative methodology. Merriam and Cafferella (1991) suggest that in addition to more qualitative methodology for determining self-directedness, other procedures of analyzing more quantitative data shows promise. One such framework is a cluster analysis procedure as discussed in the DPS analyses. Spear (1988) has also proposed this for use with self-directedness studies.

In the area of appropriateness for certain adult populations, Brookfield (1984) cautioned about studies using

the SDLRS or other measures of self-directed learning as measures of readiness for learning among specific groups of adults. He warned that an emphasis on quasi-quantitative instruments had several consequences:

1. that instruments become "self-defining regarding the learning activities that they uncover" (p. 12);
2. that "investigative hardware can intimidate learners" (p. 12);
3. that the quality of self-directed learning is overlooked; and
4. that research designs dealing with self-directed learning tend to treat all learning projects with equal significance for the learner.

Brookfield also commented on the lack of sociopolitical dimensions of self-direction research.

Brockett (1985b), responding to Brookfield's concerns regarding self-directed learning readiness measures suggested 1) there was some truth to the view that self-directed learning readiness measures emphasized middle-class samples, but that groups outside the middle-class samples had been studied more than Brookfield had suggested, 2) that the three streams of self-directed learning research developed by Brockett and Hiemstra (1991) served as a model to refute Brookfield's claim concerning the emphasis of self-directed learning research on quasi-quantitative approaches, and 3)

that the Brookfield claim of a lack of sociopolitical research regarding self-directed research was indeed accurate.

Brookfield (1985) responded to Brockett's (1985b) rebuttle by suggesting that both had the same concern; that there seemed to be a "creeping orthodoxy which threatens to exercise a conceptual stranglehold on research and theoretical speculation in this field" (p. 64). Brockett and Hiemstra (1991) offer a retrospective look at ~~the~~ this dialogue and concur that it was the spirit of the exchange that was the real contribution. They also suggest that while the middle-class samples and quantitative designs are less of a concern today than in 1984, the sociopolitical concern of self-direction remains valid.

Other researchers have added to Brookfield's contention concerning criticism of populations studied using the SDLRS. Merriam and Cafferella (1991) summarized these criticisms as a concern for the middle class status of samples used, the lack of varied socioeconomic status of the samples, the ethnicity of subjects, the middle-age bias, and the focus on educationally advantaged females. The conclusion drawn by Merriam and Cafferella is that further studies should examine highly diverse populations which include lower levels of formal education, varied ethnic and socioeconomic backgrounds, and representation of different cultural groups.

Guglielmino (1989) and Long and Agyekum (1988) believe the SDLRS is the best instrument available for study in self-

directed learning. In adding to their support, Brockett and Hiemstra (1991) suggest that despite

> apparent substantive and methodological concerns, the SDLRS has made a most important contribution to present understanding of the self-directed learning phenomenon ... (and) that this contribution ultimately outweighs the limitations that seem to be inherent within the instrument. (p. 74-75)

They continued to suggest that the SDLRS be used judiciously, but can continue to contribute to the field of self-directed learning. (p. 74-75)

Guglielmino (1977) suggested a major use of the SDLRS as a tool for further research in self-directed learning, particularly in the areas of prediction and diagnosis. Brockett and Hiemstra (1991) point out that the SDLRS has been used in two major ways. First, it has been used as an instrument to explore relationships between self-directed learning readiness and demographic variables. Second, it has been employed as a diagnostic tool for assessing perceptions of readiness for self-directed learning.

In comments regarding the importance of the SDLRS, Candy (1991) states that it has become the predominant instrument for measurement of self-directed learning readiness. Brockett and Hiemstra (1991) maintain that the SDLRS was instrumental in prompting a new direction in research. It opened the way for what Brockett and Hiemstra considered the second wave of research: concern with personality-related variables.

Findings from SDLRS studies indicate that the instrument does provide a measure of knowledge, skill, or attitudes

associated with self-direction. Increased scores on the instrument seem especially related to subjects who have had experience in higher levels of schooling. As Brockett (1985a) pointed out, the SDLRS appears to be suited to measuring readiness for self-directed learning for adults who have at least an average level of formal education and who rely on reading resources for information.

Conceptual Frameworks for Self-Direction

To strengthen the underlying knowledge base of self-direction and provide a framework for future study in self-direction, Brockett and Hiemstra (1991) developed a conceptual framework of self-direction in adult learning. As mentioned in Chapter 1, the Personal Responsibility Orientation (PRO) model addresses the confusion over self-directed learning as an instructional method and self-direction as a personality characteristic. Brockett and Hiemstra believe the use of the term self-direction in learning provides the ideal terminology for their model since it is drawn from the relationship of the concepts of self-directed learning, learner self-direction and personal responsibility. In explaining their model, Brockett and Hiemstra state:

> Thus, self-direction in learning refers to both the external characteristics of an instructional process and the internal characteristics of the learner, where the individual assumes primary responsibility for a learning experience. (p. 24)

Another model of self-direction in learning highlighting the centrality of the learner was developed by Candy (1991).

His model for self-directed learning uses 3 major domains for enhancing self-directed learning; competence, resources, and rights. According to this model, self-direction is:

> a social and psychological construct, a philosophical ideal, and a literal impossibility; an external manifestation and internal tendency; both the beginning and the end of lifelong learning; the foundation stone and the keystone of the learning society; a supplement to and substitute for the formal education system; a vehicle for the mastery of established knowledge and for the transformation of personal understandings; simultaneously a process and a product, a precondition and a purpose. (p. 424)

While there are fundamental differences between self-directed learning models proposed by Brockett and Hiemstra (1991) and Candy (1991), their assertions concerning self-direction in learning are similar: 1) the development of self-directed learning capability is not the exclusive responsibility of adult education, and 2) the development of self-direction in learning may be an evolution of efforts to allow for the facilitation of competence, academic rights, and learning resources, and 3) the increased participation that results from these efforts will continue to feed positive attitudes toward education.

Even after numerous studies on self-directed learning, there still exists "room to grow." Candy (1988) argues that research on self-direction needs to be vitalized based on three major causes: 1) a lack of progress; 2) confusion over terminology, absence of a consistent theoretical base; and 3) an inappropriate use of research paradigms. Most researchers

of self-directed learning agree that the learner must be the central point for the study, but the context in which the learning takes place is also crucial. Future research endeavors (Merriam and Caffarella, 1991) should center on operationalizing and describing interactions between learner and contexts.

Summary

The first section of Chapter 2 reviewed literature pertaining to deterrents to participation. Several schemes for a classification system of adult learner deterrents to participation were presented as well as studies dealing with specific populations of learners. The studies presented identified the influence of demographic variables on specified deterrents to participation among adult learners. Most researchers agree that people who participate in adult education are likely to possess certain characteristics, a few of which are higher education, middle class status, younger adults, and those who live in urban areas. According to previous research, persons who choose not to participate experience certain deterrents to learning endeavors; among them are time constraints, financial problems, and pressure from other responsibilities.

The second section of the Chapter dealt with self-directed learning research. This research was divided according to Brockett and Hiemstra's (1991) three streams of inquiry into self-directed learning. Numerous studies were

cited which have had a profound affect on theory-building in the area of self-directed learning.

CHAPTER 3

METHOD

The review of literature suggested that there is a need to better understand deterrents to participation and self-directed learning readiness in order to help adults become more effective learners. The primary purpose of this study is to investigate the relationship between an individual's perceptions of selected deterrents to participation and self-directed learning readiness. This chapter presents the population and sample, instrumentation, research design, hypotheses, data collection, and data analysis relatative to the study.

Population and Sample

Writers such Cross (1978, 1979, 1981), Hughes (1983), and Niemi (1985) define adult learners according to characteristics or circumstances. This research project is intended to draw from a similar population as that described by these persons. Consequently, circumstances and not necessarily age-related parameters, will be used for the population under study. Persons who inquired into undergraduate credit programs offered through the Evening College at Maryville College, Maryville, Tennessee during a period from January 1992 through December 1992 were used as the sample under study. This sample represents adult inquirers only and no subsequent effort was made regarding their matriculation/enrollment status. The only exclusion

criteria for this sample was the stipulation that such persons meet the definition established for admissions to continuing education programs by Maryville College:

> one who has or had a full-time occupation (including homemaker) for a minimum of two years or who had attended two years of post-secondary education, and are currently employed. (*Evening College Catalog*, 1992, p. 7)

The list of adult undergraduate inquirers was obtained from The Evening College at Maryville College. Permission was granted from Maryville College to access the data base of inquirers into The Evening College undergraduate programs. Address information was all that was available from the inquiry data base. This population represents adult inquirers without additional background regarding their matriculation/enrollment status. A total of 340 individuals were identified and 181 individuals were randomly selected for participation in the study according to *The Table For Determining Sample Size From A Given Population* (National Education Association, (1969). The 181 individuals were mailed three survey instruments: 1) Deterrents to Participation - General (DPS-G) (Appendix A), 2) Self-Directed Learning Readiness Scale, (SDLRS) (Appendix B), and 3) a background information form (Appendix C), and a cover letter (Appendix D). Two weeks after the initial mailing, a follow-up postcard was mailed and two weeks after the postcard mailing, telephone calls were made to nonrespondents. Approval for human subject research was granted by The

Graduate School, University of Tennessee, Knoxville, Tennessee.

Instrumentation

Two instruments: 1) the DPS-G and 2) the SDLRS, and one background information form were employed to measure deterrents to participation, self-directed learning readiness, and five demographic characteristics.

Deterrents to Participation

The first major variable in this study is perceived selected deterrents to participation in the educational activity of college attendance, as measured by the to DPS-G (Appendix A). In 1984 Scanlan & Darkenwald reported on the development of an instrument (DPS) to identify reasons adults give for not participating in continuing education. Since this work focused on deterrents to participation in health-related continuing education, it had limited external validity. Consequently, a new form of the DPS was designed to overcome this population limitation. According to Darkenwald and Valentine (1985), the DPS-G identifies "factors that deter the general public from participating in organized adult education" (p. 178).

The DPS-G contains 34 Likert-type items in which respondents rate the importance of each deterrent that affected their decision not to participate in organized adult education activity. In the Darkenwald and Valentine (1985)

study, a reliability coefficient of .86 was reported. Factor analysis indicated six factors of deterrence to organized adult participation. These included "lack of confidence," "lack of course relevance," "time constraints," "low personal priority," "cost," and "personal problems."

Four major studies that used the DPS and its modifications as a research tool were outlined in Chapter 2. These include Hayes' (1988) use of the DPS-LL with low-literate adults, Blais, Duquette, & Painchaud (1989) who modified the DPS for use with women in work-related educational activity, Martindale & Drake's (1989) use of the DPS-G with enlisted personnel, and Valentine & Darkenwald's (1990) use of the DPS-G to determine types of adults. Results from use of the modified versions indicated that the measured previously identified deterrents with similar deterrent factors.

Self-Directed Learning Readiness

The second major variable in this study was perceived self-directed learning readiness, as measured by the SDLRS. Developed in 1977 by L. M. Guglielmino, it has now been used by over 700 organizations and 35 dissertations with high reliability coefficients (Guglielmino, 1991). The 58-item Likert scale was developed by a 3-round modified Delphi technique in which 14 authorities on self-direction in learning participated. In the development of the instrument, respondents were asked to name and rate characteristics they

considered important for self-direction in learning. The responses were used to help develop a 58 Likert-type self-report survey to gather data on learner preferences and attitudes toward learning. Respondents were asked to read a statement and indicate the degree to which that statement accurately described the individual. Guglielmino (1977) estimated a .87 reliability coefficient. Factor analysis in the Guglielmino study indicated the presence of eight factors in self-direction in learning: "openness to learning opportunities," "self-concept as an effective learner," "initiative and independence in learning," "informed acceptance of responsibility for one's own learning," "love of learning," "creativity," "future orientation," and "ability to use basic study skills and problem solving skills." As indicated in Chapter 2, validation studies of the SDLRS have included those of Brockett (1983c), Curry (1983), Eisenman (1989), Finestone (1984), Hassan (1982), Long & Agyekum (1983, 1984), Mourad (1979), Reynolds (1984), Russell (1989), Sabbaghian (1980), Savioe (1980), Skaggs (1981), Torrance & Mourad (1978), Wiley (1982), and Young (1986), among others.

Chapter 2 also outlined the questions that have been raised pertaining to the reliability and validity of the SDLRS. These studies included those of Brookfield (1984), Brockett (1985), Field (1989), and Bonham (1991) among others. Brookfield's criticism dealt with the appropriateness of the scale for certain adult populations. Brockett elaborated on

this criticism in his study of methodological and substantive issues in the measurement of self-directed learning readiness. Bonham's (1991) criticism concerned the construct validity of the scale. However, neither Brockett, Brookfield, or Bonham concluded that the scale should be eliminated from use as Field (1989) had espoused. In response to these criticisms, Brockett (1985) acknowledged that the SDLRS has been used in various studies which supported the reliability and validity of the instrument. Brockett & Hiemstra (1991) conclude:

> that despite several apparent substantive and methodological concerns, the SDLRS has made a most important contribution to present understanding of the self-directed learning phenomenon ... (and) this contribution ultimately outweighs the limitations that seem to be inherent within the instrument. (pp. 74-75)

Selected Demographic Variables

The background information form consisted of five demographic variables: "age," "gender," "race," "previous enrollment in a college course for credit," and "years elapsed since last enrollment in a college course for credit." A common thread in nearly all SDLRS and DPS-G studies has been the inclusion of these variables relating. These five demographic variables, excluding "race," have been examined in this study because, together, they comprise represent variables used most often in self-directed learning readiness research and in deterrents to participation research.

Research Design

A descriptive comparative ex post facto design is used in this study. Typical of this type of design is an effort by the researcher to examine data by "going back through time, seeking out causes, relationships, and their meanings" (Isaac and Michael, 1981, p. 50). As such, inferences can be made about relationships among variables. In this study, while significant relationships may be predicted among deterrents to participation, self-directed learning readiness, and other demographic variables, a causal determination cannot be made.

The advantage of this design is that the degree of relationship is better understood rather than whether an effect is absent or present as in an experimental design. Since the relationship between variables is the major consideration of this study, the ex post facto design was chosen.

Hypotheses

Two major research questions were presented in Chapter 1 that were intended to define the parameters of the present study. For data analysis purposes, these two research questions can be translated into several more research hypotheses. Chapter 2 provided rationale for these research hypotheses in the discussion of the evolution of deterrents to participation, self-directed learning readiness, and in the linkage between those variables.

The first major research hypothesis was explored to understand the overall relationship between adults' perceptions of selected deterrents to their participation in academic programs and their self-directed learning readiness.

> Ho: A relationship exists between selected deterrents to participation factors and total self-directed learning readiness.

In order to more fully explain the relationship predicted in the above hypothesis, the factors of each instrument were examined. Eight subhypotheses were developed concerning the relationship between total self-directed learning readiness scores and the six factors of deterrents to participation.

The second major research hypothesis extended the analysis to a relationship between deterrent to participation and self-directed learning readiness factors.

> Ho: A relationship exists between deterrents to participation factors and self-directed learning readiness factors.

In an effort to determine whether differences exist between DPS-G factor scores, SDLRS factor and total scores, and selected demographic variables, the following hypotheses were tested.

> Ho: Differences can be found among deterrents to participtaion factors and gender.
>
> Ho: Differences exist between self-directed learning readiness factor and total scores and gender.
>
> Ho: Differences can be found among deterrents to participation factor scores and one's previous enrollment in a college course for credit.

Ho: Differences exist between self-directed learning readiness factor and total scores and one's previous enrollment in a college course for credit.

Ho: Differences can be found among deterrents to participation factor scores and age.

Ho: Differences exist between self-directed learning readiness factor and total scores and age.

Ho: Differences can be found among deterrents to participation factor scores and the number of years elapsed since last enrollment in a college course for credit.

Ho: Differences exist between self-directed learning readiness factor and total scores and number of years elapsed since last enrollment in a college course for credit.

This study also explored the predictive value of deterrents to participation in relation to self-directed learning readiness factors and selected demographic variables.

Ho: Specific deterrents to participation can be predicted by any number of combinations involving self-directed learning readiness and selected demographic variables.

Data Collection

Subjects who volunteered to participate in this study were mailed three instruments and a cover letter. The first instrument, DPS-G was used to identify perceived factors that deter adult undergraduate students form participating in organized adult education activities. The second instrument, the SDLRS was used to measure the degree of perceived self-directedness of prospective adult undergraduate students. The third instrument was a questionnaire designed to ascertain certain demographic information concerning each participant in

the study. Participants were asked to respond to questions regarding age, gender, level of education, length of absence from formal education and college enrollment status. In keeping with confidentiality and protection of Human Subjects in Research, each instrument was coded with a number on the return envelope to assure the mailing of non-respondent follow-up materials. The cover letter (Appendix D) outlined the purpose of the study, expected participant time commitment, the importance of response, and a statement concerning the confidentiality of respondents.

Respondents were chosen from prospective adult learners at Maryville College, Maryville, Tennessee who inquired into credit courses through The Evening College during a period from January 1992 through December 1992. No attempt was made to ascertain enrollment status after the date of inquiry. Materials mailed to each subject included a cover letter, three instruments, and a self-addressed and stamped return envelope.

Of the initial mailing to 181 subjects, 40 were completed and returned for an initial response rate of 22%. Two weeks after the initial mailing, postcards were sent to all 181 subjects as a reminder to complete the surveys and if necessary request replacements. This elicited an additional 38 responses for a total of 78 and a secondary response rate of 43%. Although telephone numbers were not available from the data base at Maryville College, telephone numbers were

obtained through other means and two weeks after the post cards were mailed, calls were made to those who did not respond to the follow-up process. If desired, another set of materials was mailed. An additional 25 responses were received for a total of 103 responses and a final response rate of 57%.

Data Analysis

Data from this study were analyzed for a description of the demographic characteristics of the sample. Factor means are presented for DPS-G. Means and standard deviation for SDLRS total and factor scores are also presented. The first hypothesis and its subhypotheses, as well as the second hypothesis, were tested using Pearson Product Moment Correlation Coefficients to determine relationships between instrument factors. Ferguson (1981), explains the purpose of product moment correlations as "the statistic that describes the degree of relation between two variables" (p. 108). The most widely used measure of correlation is the Pearson Product Moment Correlation Coefficient. If X and Y represent paired observations with standard deviations sx and sy, then to convert X to standard-score form, the mean is subtracted and divided by the standard deviation. The product moment correlation coefficient, r, is defined as the sum of products of standard scores, divided by $N - 1$. The formula is as follows:

$$r = \frac{\Sigma ZxZy}{N - 1}$$

In testing the next eight hypotheses concerning significant differences among the DPS-G and SDLRS factors and demographic variables, Analysis of Variance was employed. When the analysis for these hypotheses produced significant findings with rejection of the hypothesis, a method of least significant difference (LSD) was employed to explore specific differences among the variables producing significant differences.

Hughes & Grawoig (1971) explain the use of the "least significant difference" test.

> When all samples are of the same size, a very simple procedure used for locating significant differences is called the *least significant difference*, denoted LSD. We know that the difference between two sample means must exceed some specified quantity before the difference is considered to be significant. (p. 274)

The LSD is computed by:

$$LSD = t\alpha \sqrt{2MSW/n},$$

where MSW indicates the mean square with treatment groups.

Hughes & Grawoig (1971) warn that the LSD is an often misused technique. It should be employed only when the *F* test has led to the rejection of the null hypothesis. In this study, the LSD test was conducted accordingly.

The final hypothesis was tested using a step-wise procedure of multiple regression analysis. Hughes and Grawoig (1971) state that when data used in multiple regression and

correlation analysis represent a random sample, "inference may be made about population parameters in a manner corresponding to that of simple regression and correlation" (p. 372). While the previous hypotheses examined relationships between factors through correlation measures and differences among demographic variables and DPS-G and SDLRS factors, this hypothesis was tested through the method of step-wise regression.

Ferguson (1981) supports the use of step-wise regression analysis and suggests "the greater part of the prediction achieved can be attributed to a small number of variables" (p. 472). He explains the procedure in the following manner:

> In applying this procedure the best predictor is paired with every other predictor in turn and a multiple correlation calculated for each pair of predictors... When the best pair of predictors has been selected, this pair may be combined with each of the remaining g-2 variables, and a further g-2 multiple correlation coefficients calculated... This procedure may be continued until the inclusion of additional variables adds nothing of much significance to the multiple correlation coefficient. (p. 472)

McClave & Dietrich (1988) believe that step-wise regression is the best way to choose the important independent variables to include in model building. The result of the step-wise procedure is a model containing only those variables with t-values that are significant at the specified alpha level. The disadvantages to using a step-wise regression procedure is that it uses only sample estimates to select the important variables allowing for possible error in including or excluding variables. Additionally, higher-order terms may

be omitted. Thus, McClave & Dietrich believe step-wise regression should be recognized only for what it is: "an objective screening procedure" (p. 923). To help reduce prediction error, other general linear models procedures were used including t-tests, Duncan's, and Tukey's procedures. The results from these procedures were used as a means of comparison with step-wise regress outcomes. The factors to be examined in the prediction of the variable, deterrents to participation include, self-directed learning readiness, and four demographic factors of "age," "gender," "previous enrollment in a college course for credit," and "years elapsed since last enrollment in a college course for credit."

Internal consistency of the SDLRS and DPS-G were tested and Pearson Product Moment Correlation Coefficients were obtained. Finally, Cronbach Alpha Coefficients were used to test reliability coefficients for the total SDLRS.

Summary

The purpose of this study was to analyze and describe the relationship between adults' perceived deterrents to participation and their self-directed learning readiness. This chapter described methodology, including population and instrumentation. The research hypotheses in relation to data collection and data analysis were also discussed.

CHAPTER 4

ANALYSIS OF DATA

The main purpose of this study was to investigate the relationship between adults' perceptions of selected deterrents to participation in higher education and their readiness for self-direction in learning. A secondary purpose was to determine whether differences exist between DPS-G factor scores and SDLRS factor and total scores when grouped according to specific demographic variables. This chapter presents and discusses the results of an analysis of the data that were obtained from 103 subjects comprising the study sample.

This chapter is organized into three sections. The first section comprises a profile of the sample. The second section discusses data pertaining to the three instruments used in the study. Finally, the third section discusses hypotheses presented in Chapter 3. Each hypothesis is tested and findings related to its testing are presented.

Profile of the Sample

The sample consisted of 103 subjects, selected from a total population of 340 persons who inquired into part-time credit programs offered through the Evening College at Maryville College, Maryville, Tennessee between January, 1992 and December, 1992. The study considered the following characteristics of the sample: age, gender, race, previous college enrollment, and lapse in formal educational

enrollment. The variable of race was used only for demographic purposes. Table 1 profiles these results.

Age

Subjects ranged in age from 22 to 75. The mean age was 37.03, the median age was 35, and the standard deviation was 9.46. Subjects in age group 30-34 represented the largest percentage of the sample. The number of responses received according to age group is: 30-34 (25 responses), 35-39 (20 responses), 25-29 (17 responses), 40-44 (13 responses), 45-49, (11 responses), 50-54 (6 responses), 20-24 (6 responses), 55-59 (3 responses), and over 60 (2 responses).

Gender

Nearly two-thirds (65%) of the sample were male, while 35% were female. Females generally outnumber males in previously discussed research. The majority of inquirers in this study were males who were interested in a management degree program which is marketed to large corporations around the Knoxville, Tennessee area. In this area men outnumber women employees. Consequently, the high ratio of men to women reflect these specific site conditions.

Race

When race was used as a variable in research studies it often produced significant findings (Anderson & Darkenwald, 1979; Carp, Peterson, & Roelfs, 1974). Of the 103 respondents in this study, only 2% were of African-American descent, 3%

Table 1

Frequencies and Percentages for Demographic Characteristics of 103 Inquirers into Part-time Credit Programs at Maryville College, Maryville, TN

Characteristic	Frequency	Percent	Cumulative Percent
Age			
20-24	6	5.8	5.8
25-29	17	16.5	22.3
30-34	25	24.3	46.6
35-39	20	19.4	66.0
40-44	13	12.6	78.6
45-49	11	10.0	89.3
50-54	6	5.8	95.1
55-59	3	2.9	98.0
60 and over	2	1.9	-
TOTAL	103	100.0	100.0
Mean = 37.03	Median = 35		S.D. = 9.46
Gender			
Male	67	65.0	-
Female	36	35.0	-
TOTAL	103	100.0	

Table 1 -- Continued

Characteristic	Frequency	Percent	Cumulative Percent
Race			
African-American	2	1.9	1.9
American Indian	3	2.9	4.8
Asian	1	.9	-
Caucasian	97	94.2	99.0
TOTAL	103	100.0	100.0
Previous Enrollment in a College Course for Credit			
Yes	87	84.4	-
No	16	15.5	-
TOTAL	103	100.0	
Years Elapsed Since Last College Course Enrollment			
less than 1	13	14.9	14.9
1-4	39	44.8	59.7
5-9	14	16.1	75.8
10-14	13	14.9	90.7
15-19	5	5.7	96.4
20 & Over	3	3.4	-
TOTAL	103	100.0	100.0

Mean = 4.53 Median = 5.0 S.D. = 5.33

NOTE: Due to rounding, some percentages may not exactly total 100 per cent.

were of Asian Indian descent, 1% were Asian-Americans, and 94% were Caucasian. This low minority representation is typical of most private college, adult degree programs. Because of the percentage of minority subjects in this study, inclusion of race as a variable for study was not warranted.

Previous Enrollment in a College Course for Credit

A large percentage (84%) of the sample indicated they had enrolled in a previous college course for credit. Previous college enrollment has been shown to be an important factor in participation studies (Courtney, 1992) and in self-directed learning research (Brockett & Heimstra, 1992).

Years Elapsed Since Last College Course Enrollment

Of the 87 respondents who answered affirmatively to the variable "previous enrollment in a college course for credit," the average absence was 4.53 years. Approximately 15% of the respondents indicated a lapse of less than one year, 45% a lapse of 1 - 4 years, 16% of 5 - 9 years, 15% of 10 - 14 years, 6% a 15 - 19 year lapse, and 3% an over 20 years lapse. Many studies using adult learners in research endeavors consider the variable of educational attainment, rather than lapse in enrollment. Since this study is also concerned with deterrents to participation, a variable that could encompass people who had most recently experienced a lapse in education with an interest to return, was considered an important characteristic. And, since all respondents had completed high

school, but not a baccalaureate degree, educational attainment was not relevant in the present investigation.

Summary of Demographic Characteristics

Respondents to the surveys averaged about 37 years of age. Nearly two-thirds of the sample were male (85%) and 35% were female. The vast majority of respondents were Caucasian (94%), while minorities comprised 6% of the sample. A majority of the respondents (84%) had previously taken a college course for credit and, of those, the average lapse of time from their last educational encounter was 4.5 years.

Deterrents to Participation - General Scale (DPS-G)

The DPS-G is a relatively untested instrument; this presents potential limitations, especially in the area of reliability and/or validity. However, the fact that it is a new instrument commends additional testing. A new instrument can only be refined by wide-scale use.

As was discussed earlier, the DPS-G was developed in 1985 by Darkenwald and Valentine to identify factors that "deter the general public from participating in organized adult education" (p. 178). While the instrument builds on earlier work of Scanlan and Darkenwald (1984), it was constructed "de novo" (p. 179) with the intent of contributing to a general theory of participation behavior. From the DPS-G, six factors were extracted: 1) "lack of confidence;" 2) "lack of course relevance;" 3) "time constraints;" 4) "low personal

priority;" 5) "cost;" and 6) "personal problems." No total score is derived from this instrument.

Table 2 presents the mean, standard deviation, and range for each of the six factors of the DPS-G from the current study. As indicated, factor 3, "time constraints," tended to be the most powerful deterrent to participation while factor 6, "personal problems," seemed to have the least impact on deterrence. The Darkenwald and Valentine (1985) study did not calculate factor means as did the current study. Consequently, only item means, rank, and factor reliability can be compared with the current study.

Table 3 presents a comparison of item means and factor reliabilities of the current study and the Darkenwald and Valentine (1985) study. As indicated, item means were fairly consistent in the two studies with the exception of factor 6, "personal problems." Items within that factor were consistently considered stronger deterrents in the current study. This finding may be related to the fact that the questions in factor six relate to fulfilling situational needs of health, child care, personal problems, and safety needs before consideration of educational needs. One reason for this may be that the institution from which the inquiry sample was drawn does not offer health care or child care facilities.

Regarding the internal consistency of the DPS-G, Darkenwald and Valentine (1985) used the alpha coefficient for each of the six factors. They found the internal consistency

Table 2

Mean, Standard Deviation, and Range for Scores on Six Factors of the Deterrents to Participation Scale - General (DPS-G) for 103 Inquirers at Maryville College Maryville, Tennessee

Factor	Number of Items	Mean	Standard Deviation	Range Minimum	Range Maximum
Lack of Confidence	7	10.34	4.51	7	32
Lack of Course Relevance	4	6.65	3.29	4	17
Time Constraints	5	13.14	4.60	5	24
Low Personal Priority	4	7.92	2.89	4	18
Cost	3	7.65	4.11	3	15
Personal Problems	4	6.36	2.77	4	19

NOTE: Items comprising each of the factor scores are identified in Appendix E.

Table 3

Comparison of Item Means and Factor Reliabilities for Selected Adult Sample

Question Number	Item Means Wood (1994)	Darkenwald & Valentine (1985)
Factor 1: Lack of Confidence		
1	1.33	1.47
6	1.61	1.41
9	1.27	1.42
13	1.52	1.47
16	1.71	1.62
24	1.68	1.46
29	1.21	1.22
Factor Reliability	.76	.87
Factor 2: Lack of Course Relevance		
5	1.74	1.83
15	1.61	1.57
20	1.74	1.98
26	1.56	1.78
Factor Reliability	.74	.83
Factor 3: Time Constraints		
4	3.20	2.93
7	2.38	3.00
11	2.68	2.40
12	2.79	3.02
27	2.09	2.54
Factor Reliability	.63	.72
Factor 4: Low Personal Priority		
2	1.64	1.64
18	2.96	2.47
21	1.95	2.03
23	1.37	1.49
Factor Reliability	.52	.64
Factor 5: Cost		
8	2.97	1.82
25	2.49	1.60
28	2.19	1.55
Factor Reliability	.78	.75

Table 3 -- Continued

Factor 6: Personal Problems		
3	3.84	1.19
17	2.94	1.44
19	3.58	1.73
Factor Reliability	.36	.40

$p < .001$

to be .87, .83, .72, .64, .75, and .40 respectively, even though there were relatively few items per scale. While factor intercorrelations were not conducted in the Darkenwald and Valentine (1985) study, Table 4 presents product moment coefficient correlations for the current study. All factors correlated at the .0001 level of significance, with the exception of the following: 1) "low personal priority" ($p < .01$) and "cost" ($p < .05$) with "course relevance," 2) "cost" (not significant) with "time constraints," 3) "low personal priority" (.001 significance level) with "personal problems" and 4) "cost" (not significant) with "personal problems." Interpretation of these findings is presented in Chapter 5.

Multiple comparisons of DPS-G factors with SDLRS factor and total scores and demographic variables were sought through step-wise regression. In order to determine a predictive value of deterrents to participation with total and factor SDLRS scores and demographic variables, a step-wise regression correlation was calculated for each possible pair of predictors. As mentioned earlier, this procedure is continued until the inclusion of additional variables adds nothing of significance to the multiple correlation coefficient. Prediction equations were calculated using a .15 level of significance.

Table 4

Pearson Product Moment Correlation Coefficients of Six Deterrent to Participation -General Scale Factors for 103 Inquirers at Maryville College, Maryville, Tennessee

Factor	Lack of Confidence	Lack of Relevance	Time Constraints	Low Personal Priority	Cost	Personal Problems
Lack of Confidence	1.0	.51*	.38*	.49*	.33*	.44*
Lack of Course Relevance		1.0	.37*	.28***	.16+	.39*
Time Constraints			1.0	.41*	.23	.37*
Low Personal Priority				1.0	.22+	.31**
Cost					1.0	.14
Personal Problems						1.0

* p < .0001
** p < .001
*** p < .01
\+ p < .05

Self-Directed Learning Readiness Scale

To gain a better understanding of self-directed learning readiness, as it was measured in this study, Table 5 was prepared. As explained earlier, the Self-Directed Learning Readiness Scale (SDLRS) measures the degree of adults' self-directedness in learning. Eight factor scores and one total score is obtained from this instrument. The eight factors of the scale include: 1) "love of learning;" 2) "self-concept as an effective, independent learner;" 3) "tolerance of risk, complexity, and ambiguity in learning;" 4) "creativity;" 5) "view of learning as a lifelong, beneficial process;" 6) "initiative in learning;" 7) "self-understanding;" and 8) "acceptance of responsibility for one's own learning." The mean total SDLRS score for the sample is 228.38 while scores ranged from 120 to 276.

Over 35 dissertations have reported findings based on the SDLRS (Guglielmino, 1991). Comparisons of the SDLRS total and factor scores for the current study and selected samples are shown in Table 6. The respondents in the current study scored near the middle of the studies listed, and similar to the samples of the Hassan (1981), Reynolds (1984), and Sabbaghian (1979) studies. As with the current study, Hassan, Reynolds, and Sabbaghian used a span of adult age groups within either higher education or the general public. These studies all had higher self-directed learning readiness scores than studies using older adults (Brockett, 1982) or unspecified adults

Table 5

Mean, Standard Deviation, and Range for Scores on the Self Directed Learning Readiness Scale and Eight Factor Scores for 103 Inquirers into Evening College Credit Programs at Maryville College

Factor	Number of Items	Mean	Standard Deviation	Range Minimum	Range Maximum
Total Self-Directed Learning Readiness	58	228.38	31.49	120	276
Love of Learning	17	67.13	9.10	36	78
Self-Concept as an Effective Learner	12	41.20	6.58	23	54
Tolerance of Risk, Ambiguity, and Complexity in Learning	17	65.77	10.06	37	84
Creativity	10	38.19	6.95	20	49
View of Learning as a Lifelong, Beneficial Process	8	35.03	4.86	15	40
Initiative in Learning	5	18.26	3.15	10	25
Self-Understanding	9	35.22	5.01	18	44
Acceptance of Responsibility for One's Own Learning	2	8.36	1.54	4	10

NOTE: Items comprising each of the factor scores are identified in Appendix F.

Table 6

Comparison of Self-Directed Learning Readiness Scale
Scores for Selected Adult Samples

Author (Date)	Subjects	N	Mean	Standard Deviation	Range Minimum	Maximum
Wood (1994)	Adult Inquirers	103	228.4	31.5	120	276
Reynolds (1984)	Adult Part-time Community College	95	228.1	24.9	173	284
Leeb (1983)	Health Lifestyles	34	237.4	22.3	169	272
Brockett (1983c)	Older Adults	64	212.0	25.4	166	269
Skaggs (1981)	Practicing RN's	107	233.4	22.8	171	281
Hassan (1981)	General Adults	77	227.9	23.9	Range = 119*	
Guglielmino (1980)	Unspecified Adults	818	214.4	25.6	141	285
Sabbaghian (1979)	Undergraduate Adult Students	77	229.1	24.1	157	276
Guglielmino (1977a)	Graduate Students	91	257.5	20.0	189	285
Guglielmino (1977b)	College Faculty	185	246.8	17.2	184	284

* Minimum and Maximum scores were not available.

(Guglielmino, 1980), but lower scores than studies of practicing professionals (Leeb, 1983; Skaggs, 1981) or graduate students and faculty (Guglielmino, 1977).

As was indicated previously, studies have demonstrated validity and reliability for the SDLRS. The current study also found significant correlations between item and factor means and between factor and total SDLRS score means. SDLRS item to factor correlations ranged from .71 to .85 and were significant at the .001 level. SDLRS factor to total SDLRS are presented in Table 7. All factors were highly correlated with the total SDLRS scores except the eighth factor, "acceptance of responsibility for one's own learning." This factor must be considered with caution since previous research has consistently shown a much lower correlation value. A Cronbach Coefficient Alpha indicated a .96 reliability coefficient. The current study provided a higher reliability coefficient and high internal consistency as established through item to factor and factor to total SDLRS score than previous studies. However, 84% of the sample had some college education.

Testing the Hypotheses

Eleven hypotheses were proposed to examine the relationship between deterrents to participation and self-directed learning readiness and differences among SDLRS total and factor scores and DPS-G factor scores with selected demographic variables. The sample consisted of 103 inquirers

Table 7

Product Moment Correlation Coefficients Between Total Score on the Self-Directed Learning Readiness Scale and the Eight Factor Scores

Factor	Correlation with Total SDLRS Score
Love of Learning	.91
Self-Concept as an Effective Learner	.87
Tolerance of Risk, Ambiguity, and Complexity in Learning	.87
Creativity	.91
View of Learning as a Lifelong Beneficial Process	.85
Initiative in Learning	.73
Self-Understanding	.87
Acceptance of Responsibility for One's Own Learning	.55

$p < .001$

into credit programs at a four-year private college. This section presents and discusses those hypotheses.

> Ho: There is no significant relationship between selected deterrents to participation factors and total self-directed learning readiness.

To examine this hypothesis, the six factor scores of the DPS-G scale were correlated with the total score on the SDLRS. Table 8 presents the Pearson Product Moment Correlation Coefficients between the six DPS-G factors and total SDLRS score. As indicated, two of the hypothesized relationships were confirmed and four were not. The DPS-G does not yield a total score. Therefore, six null subhypotheses were developed to test the relationship expected for the variables.

> A. There is no significant relationship between lack of confidence and total self-directed learning readiness scores.

A significant negative correlation coefficient of r = -.361 was obtained with a probability level of .0002. Consequently, it is suggested that the greater the perception of "lack of confidence" as a deterrent to participation, the lower one's level of self-directed learning readiness. The null hypothesis was rejected.

> B. There is no significant relationship between lack of course relevance and total self-directed learning readiness scores.

Table 8

Pearson Product Moment Correlation Coefficients Between Six Factors of the Deterrents to Participation Scale-General and Total Self-Directed Learning Readiness Score

DPS-G Factors	Correlation with Total Self-Directed Learning Readiness
Lack of Confidence	-.36*
Lack of Course Relevance	-.19
Time Constraints	.0005
Low Personal Priority	-.38*
Cost	.14
Personal Problems	.03

* $p < .001$

"Lack of course relevance" was not found to have a significant relationship to total self-directed learning readiness. Based on a r = -.187 correlation coefficient with a .06 probability level, the null hypothesis was not rejected.

C. There is no significant relationship between time constraints and total self-directed learning readiness scores.

The correlation between the perception of "time constraints" as a deterrent to participation and total self-directed learning readiness score was found to be not significant (r = .0052) with a .99 probability level. Thus, the null hypothesis was not rejected and the perception of "time constraints" as a deterrent to participation does not seem to be related to self-directed learning readiness.

D. There is no significant relationship between low personal priority and total self-directed learning readiness scores.

A negative correlation coefficient of r = -.376 with a probability level of .0001 was found between "low personal priority" and total self-directed learning readiness score for the 103 respondents in the study. Therefore, the null hypothesis is rejected, suggesting that one who perceives oneself as experiencing the DPS-G factor, "low personal priority" as a deterrent to participation, is also likely to have a lower self-directed learning readiness score.

E. There is no significant relationship between cost and total self-directed learning readiness scores.

The correlation coefficient between "cost" as a perceived deterrent to participation and total self-directed learning readiness was found to be not significant ($r = -.14$; $p < .16$). The null hypothesis is not rejected and "cost" as a perceived deterrent to participation does not seem to have a bearing on total self-directed learning readiness score.

F. There is no significant relationship between personal problems and total self-directed learning readiness scores.

The perception that "personal problems" as a deterrent to participation is not significantly correlated with total self-directed learning readiness score. The null hypothesis is not rejected and the extent to which one perceives personal problems as a deterrent to participation does not seem to be related to total self-directed learning readiness.

In order to take the analysis of deterrents to participation and self-directed learning readiness further, correlation coefficients were also obtained comparing each factor of the DPS-G with each factor of the SDLRS.

Ho: There is no significant relationship between the six factors of deterrents to participation and the eight factors of self-directed learning readiness.

As indicated in Table 9, there are 16 significant correlations and 32 non-significant correlations. Thus, the null hypothesis is not totally rejected.

The factor, "lack of confidence" was negatively correlated with all self-directed learning readiness factors except "acceptance of responsibility for one's own learning." The seven correlated self-directed learning factors were significant at the .05 level of significance or greater.

In addition, the factor "low personal priority" was also negatively related to all self-directed learning readiness factors except "acceptance of responsibility for one's own learning." The correlated factors were significant at the .05 level of significance or greater. Both factors were also correlated with total self-directed learning readiness as indicated in Hypothesis 1 and Table 8. Two other DPS-G factors correlated with two separate SDLRS factors: 1) "lack of course relevance" was correlated with the SDLRS factor "tolerance of risk, ambiguity, and complexity in learning" ($r = -.23$; $p < .05$) and 2) "personal problems with "acceptance of responsibility for one's own learning" ($r = .21$; $p < .05$). Two factors, "time constraints" and "cost," did not correlate with any self-directed learning readiness factors.

Ho: There is no significant difference between DPS-G factor scores and gender.

Table 9

Pearson Product Moment Correlation Coefficients Between Factor Scores for Deterrents to Participation-General and Self-Directed Learning Readiness Scale Factors

	DPS-G Factors					
SDLRS Factors	Lack of Confidence	Lack of Course Relevance	Time Constraints	Low Personal Priority	Cost	Personal Problems
Love of Learning	-.23***	-.13	.03	-.37*	-.14	-.15
Self-Concept as an Effective Learner	-.39*	-.16	-.01	-.33**	-.09	-.04
Tolerance of Risk, Ambiguity, and Complexity in Learning	-.34**	-.23***	.00	-.23***	-.17	-.03
Creativity	-.43*	-.18	-.04	-.41*	-.13	-.05
View of Learning as a Lifelong, Beneficial Process	-.20***	-.11	.06	-.28**	-.10	.13
Initiation in Learning	-.25***	-.01	-.03	-.21***	-.05	.02
Self-Understanding	-.21***	-.08	-.02	-.41*	.16	.12
Acceptance of Responsibility for One's Own Learning	.01	-.10	-.03	-.07	-.01	.21***

* $p < .001$
** $p < .01$
*** $p < .05$

Analysis of Variance for DPS-G factors and the variable "gender" were determined and are described in Table 10. As indicated, the only significantly different DPS-G factor is "personal problems." As a result, the hypothesis cannot be completely rejected.

As discussed in Chapter 3, a test for least significant difference (LSD) should be employed only when the hypothesis has been rejected. Since the hypothesis is only rejected in part, a more specific account of significant differences between males and females in regard to the DPS-G factor "personal problems" was conducted. As indicated in Table 11, females perceive "personal problems" as more of a deterrent to participation than males in this study. The mean scores were 1.74 and 1.31, respectively.

Ho: There is no significant difference between SDLRS factor and total scores and gender.

An analysis of variance was also performed to determine significant differences between SDLRS total and factor scores and the demographic variable of "gender" (Table 12). The table shows that the SDLRS factor, "love of learning," with an F-ratio of 4.49, significant at the .05 level, is the only factor of significant difference. As indicated, females had a higher mean score ($\bar{x}$ = 4.30) than males ($\bar{x}$ = 4.02) for the factor "love of learning." Therefore, the hypothesis cannot be fully rejected.

Table 10

Analysis of Variance for the Deterrents to Participation Scale-General Factors and the Demographic Variable, "Gender"

DPS-G Factors	df	Sum of Square	Mean Square	F	Pr > F
Lack of Confidence	1	.05	.05	.14	.71
Lack of Course Relevance	1	.0003	.0003	.00	.98
Time Constraints	1	.08	.08	.09	.77
Personal Priority	1	.59	.59	1.12	.29
Cost	1	2.10	2.09	1.23	.27
Personal Problems	1	4.32	4.32	9.53	.003*

* $p < .05$

Table 11

Least Significant Difference (LSD) Test for the Deterrents to Participation Scale-General Factor, "Personal Problems" and the Demographic Variable, "Gender"

	Personal Problems				
Gender	Number	T-Grouping	Mean	Mean Difference	LSD
Male	36	B	1.31		
Female	67	A	1.74	.43	.28*

* $p < .05$

Table 12

Analysis of Variance for the Self-Directed Learning Readiness Scale Factor and Total Scores and the Demographic Variable, "Gender"

SDLRS Factors	df	Sum of Squares	Mean Square	F	Pr > F
Total SDLRS	1	407.24	407.24	.44	.51
Love of Learning	1	2.00	2.00	4.49	.04*
Self-Concept as an Effective Learner	1	.0003	.0003	.00	.98
Tolerance of Risk, Ambiguity, and Complexity in Learning	1	.01	.01	.01	.90
Creativity	1	.07	.07	.14	.71
View of Learning as a Lifelong, Beneficial Process	1	.77	.77	2.08	.15
Initiation in Learning	1	.0001	.0001	.00	.98
Self-Understanding	1	.27	.27	.87	.35
Acceptance of Responsibility for One's Own Learning	1	1.21	1.21	1.98	.16

* $p < .05$

Accordingly, LSD tests were performed to determine whether any specific differences existed among males and females in regard to "love of learning." Table 13 indicates the results of this test. As indicated, females scored higher on the SDLRS variable, "love of learning," with a mean of 4.30 than males with a mean of 4.02. No other variables were found to be significant at the .05 level of significance.

Ho: There is no significant difference between DPS-G factor scores and previous enrollment in a college course for credit.

Table 14 profiles the results of Analysis of Variance tests performed to determine significant differences between DPS-G factor scores and the demographic variable, "previous enrollment in a college course for credit." The table demonstrates that the following DPS-G factors of, "lack of confidence," and "cost," (with F-ratios of 8.53 and 7.74 respectively at a probability level of .05) differed significantly according to "previous enrollment."

LSD tests were again performed to determine whether any specific differences existed for "lack of confidence" and "cost" among those who had previous enrolled in a college course for credit and those who had not enrolled. Table 15 and 16 indicate the results of these tests. As indicated, those who had not previous enrolled in a college course found "lack of confidence" to be a greater deterrent to participation with a mean of 1.88 than those who had enrolled. In another finding, "cost" ($\bar{x}$ = 3.40) also seemed to be a

Table 13

Least Significant Difference Test for the Self-Directed Learning Readiness Scale Factor, "Love of Learning" and the Demographic Variable, "Gender"

	Love of Learning				
Gender	Number	T-Grouping	Mean	Mean Difference	LSD
Male	36	B	4.02		
Female	67	A	4.30	.28	.27*

* $p < .05$

Table 14

Analysis of Variance for the Deterrents to Participation Scale-G Factors and the Demographic Variable, "Previous Enrollment in a College Course for Creidt"

DPS-G Factors	df	Sum of Square	Mean Square	F	Pr > F
Lack of Confidence	1	3.25	3.25	8.53	.004*
Lack of Course Relevance	1	1.50	1.50	2.23	.13
Time Constraints	1	.14	.14	.17	.69
Personal Priority	1	1.46	1.46	2.80	.10
Cost	1	13.22	13.22	7.74	.007*
Personal Problems	1	.50	.50	1.10	.30

* $p < .05$

Table 15

Least Significant Difference (LSD) Tests for the Deterrents to Participation Scale-General Factor, "Lack of Confidence" and the Demographic Variable, "Previous Enrollment in a College Course for Credit"

	Lack of Confidence				
Previous Enrollment	Number	T-Grouping	Mean	Mean Difference	LSD
Enroll	36	B	1.40		
Not Enroll	87	A	1.88	.48	.33*

* $p < .05$

Table 16

Least Significant Difference (LSD) Tests for the Deterrents to Participation Scale-General Factor, "Cost" and the Demographic Variable, "Previous Enrollment in a College Course For Credit"

	Cost				
Previous Enrollment	Number	T-Grouping	Mean	Mean Difference	LSD
Enroll	36	B	2.39		
Not Enroll	87	A	3.40	1.01	.71*

* $p < .05$

greater deterrent to participation among persons in this study who had not enrolled in a previous college course. No other differences were found at the .05 level of significance.

> Ho: There is no significant difference between SDLRS factor and total scores and previous enrollment in a college course for credit.

A presentation of the results of Analysis of Variance tests performed to determine significant differences between SDLRS factor scores and the demographic variable, "previous enrollment in a college course for credit" are offered in Table 17. The table demonstrates that the total SDLRS ($F = 9.21$) and the following SDLRS factors: "self-concept as an effective learner" ($F = 12.67$), and "creativity" ($F = 7.58$) with probability levels of .05, differed significantly according to "previous enrollment." As a result of the findings, the hypothesis is rejected in part.

LSD tests were also conducted to determine whether a specific difference existed among the two SDLRS factors and total scores according to those who enrolled in a college course for credit and those who did not. As indicated in Table 18 - 20 ($p < .05$), persons who had previously enrolled in a college course for credit indicated higher means for the total SDLRS factors ($\bar{x} = 231.52$) and the factors, "self-concept as an effective learner" ($\bar{x} = 3.73$) and "creativity" ($\bar{x} = 3.90$) than those who did not enroll.

Table 17

Analysis of Variance for the Self-Directed Learning Readiness Scale Factor and Total Scores and the Demographic Variable, "Previous Enrollment in a College Course for Credit"

SDLRS Factors	df	Sum of Squares	Mean Square	F	Pr > F
Total SDLRS	1	8578.87	8578.87	9.21	.003*
Love of Learning	1	1.64	1.64	3.68	.06
Self-Concept as an Effective Learner .0006*	1	4.64	4.64	12.67	
Tolerance of Risk, Ambiguity, and Complexity in Learning	1	.97	.97	2.79	.10
Creativity	1	3.49	3.49	7.58	.007*
View of Learning as a Lifelong, Beneficial Process	1	.43	.43	1.16	.28
Initiation in Learning	1	1.48	1.48	3.71	.06
Self-Understanding	1	.75	.75	2.43	.12
Acceptance of Responsibility for One's Own Learning	1	.00	.00	.00	.99

* $p < .05$

Table 18

Least Significant Difference (LSD) Test for the Self-Directed Learning Readiness Scale Total Score and the Demographic Variable, "Enrollment in a College Course for Credit"

	Total SDLRS				
Previous Enrollment	Number	T-Grouping	Mean	Mean Difference	LSD
Enrolled	87	A	231.52		
Not Enrolled	16	B	211.31	20.21	16.51*

* $p < .05$

Table 19

Least Significant Difference (LSD) Test for the Self-Directed Learning Readiness Scale Factor, "Self-Concept" and the Demographic Variable, "Enrollment in a College Course for Credit"

	Self-Concept As An Effective Learner				
Previous Enrollment	Number	T-Grouping	Mean	Mean Difference	LSD
Enrolled	87	A	3.73		
Not Enrolled	16	B	3.15	.58	.33*

* $p < .05$

Table 20

Least Significant Difference Test for the Self-Directed Learning Readiness Scale Factor, "Creativity," and the Demographic Variable, "Enrollment in a College Course for Credit"

	Creativity				
Previous Enrollment	Number	T-Grouping	Mean	Mean Difference	LSD
Enrolled	87	A	3.90		
Not Enrolled	16	B	3.40	.50	.37*

* $p < .05$

Ho: There is no significant difference between DPS-G factor scores when grouped by age.

In order to test the hypothesis, Analysis of Variance was used to determine significant differences in DPS-G factors and "age" groups at the .05 level of significance. Table 21 reflects that there are no significant differences between "age" and the six DPS-G factors. Therefore, the hypothesis cannot be rejected.

Since the hypothesis cannot be rejected, the practice of calculating least significant differences would be a misuse of the technique.

Ho: There is no significant difference between SDLRS total and factor scores when grouped by age.

The results of an Analysis of Variance between the Hypothesized variables are detailed in Table 22. No significant differences were found among the variables, therefore, the hypothesis is not rejected. Consequently, LSD tests were not employed to determine specific variable differences.

Ho: There is no significant difference between DPS-G factor scores when grouped by years elapsed since last enrollment in a college course for credit.

Table 23 profiles the difference between these factors. As shown, the only significantly different factor at a significance level of .05 was "lack of confidence" with the demographic variable, "years elapsed" (F-ratio 2.34). Since the hypothesis is rejected in part, a test of least significant

Table 21

Analysis of Variance for the Deterrents to Participation Scale-General Factors and the Demographic Variable, "Age"

DPS-G Factors	df	Sum of Square	Mean Square	F	Pr > F
Lack of Confidence	8	4.92	.62	1.66	.12
Lack of Course Relevance	8	2.68	.34	.48	.87
Time Constraints	8	5.90	.74	.85	.57
Personal Priority	8	7.27	.91	1.86	.08
Cost	8	14.79	1.85	.96	.47
Personal Problems	8	4.17	.52	1.05	.40

$p < .05$

Table 22

Analysis of Variance for the Self-Directed Learning Readiness Scale Factor and Total Scores and the Demographic Variable, "Age"

SDLRS Factors	df	Sum of Squares	Mean Square	F	Pr > F
Total SDLRS	8	6769.64	846.20	.91	.51
Love of Learning	8	3.71	.46	1.03	.42
Self-Concept as an Effective Learner	8	1.95	.24	.61	.77
Tolerance of Risk, Ambiguity, and Complexity in Learning	8	3.77	.47	1.34	.23
Creativity	8	3.80	.47	1.06	.40
View of Learning as a Lifelong, Beneficial Process	8	2.39	.30	.80	.60
Initiation in Learning	8	2.25	.28	.70	.69
Self-Understanding	8	3.21	.40	1.30	.25
Acceptance of Responsibility for One's Own Learning	8	7.94	.99	1.76	.10

$p < .05$

Table 23

Analysis of Variance for the Deterrents to Participation Scale-General Factors and the Demographic Variable, "Years Elapsed Since Last Enrollment in a College Course for Credit"

DPS-G Factor	df	Sum of Squares	Mean Square	F	Pr > F
Lack of Confidence	5	4.33	.87	2.34	.048*
Lack of Course Relevance	5	3.95	.79	1.13	.35
Time Constraints	5	2.73	.55	.63	.68
Personal Priority	5	2.61	.52	1.07	.38
Cost	5	5.99	1.20	.62	.68
Personal Problems	5	.77	.16	.31	.90

* $p < .05$

difference was conducted to determine specific differences. Table 24 presents the results of a least significant difference test on "lack of confidence" and "years elapsed since last enrollment in a college course for credit." Those persons with over 20 years absence from formal education perceived "lack of confidence" as a greater deterrent to participation than those in all other enrollment groups.

> Ho: There is no significant difference between SDLRS factor and total scores when grouped by years elapsed since last enrollment in a college course for credit.

In order to describe the results of this examination Table 25 presents the Analysis of Variance for these factors. Since there were no significant difference at the .05 level, the hypothesis is not rejected. Consequently, tests of least significant tests were not conducted on the variables.

The final hypothesis involved the extent to which it is possible to predict deterrents to participation using self-directed learning readiness factors and demographic variables.

> Ho: No significant deterrent prediction equation is obtainable from SDLRS total and factor scores and selected demographic variables.

Table 26 presents a summary of significant variables in a step-wise regression model for each factor of deterrents to participation. No deterrent variable met the .15 significance level for entry into the model for the factor, "time constraints," but all others are identified.

Table 24

Least Significant Difference (LSD) Test for the Deterrents to Participation Scale-General Factor, "Lack of Confidence" and the Demographic Variable Group, "Year Elapsed Since Last College Enrollment"

	Years Elapsed Groups					
DPS-G Factor	Less Than 1	1-4	5-9	10-14	15-19	Over 20
Lack of Confidence	1.66	1.31	1.56	1.34	1.3	12.29*

* $p < .05$

Table 25

Analysis of Variance for the Self-Directed Learning Readiness Scale Factor and Total Scores and the Demographic Variable, "Years Elapsed Since Last Enrollment in a College Course for Credit"

SDLRS Variable	df	Sum of Squares	Mean Square	F	Pr > F
Total SDLRS	5	7103.47	1420.69	1.53	.19
Love of Learning	5	3.43	.69	1.52	.19
Self-Concept as an Effective Learner	5	2.94	.59	1.47	.21
Tolerance of Risk, Ambiguity, and Complexity in Learning	5	.68	.14	.38	.86
Creativity	5	5.62	.47	1.06	.40
View of Learning as a Lifelong, Beneficial Process	5	2.29	.46	1.23	.30
Initiation in Learning	5	2.24	.45	1.11	.36
Self-Understanding	5	.87	.17	.56	.73
Acceptance of Responsibility for One's Own Learning	5	2.18	.44	.77	.57

$p < .05$

Table 26

Summary of Step-Wise Regression Analysis for Deterrents to Participation Factors

SDLRS & Demographic Factors	Partial R**2	Model R**2	F	Pr > F
FACTOR 1: Lack of Confidence				
Creativity	.18	.18	22.73	.0001
Acceptance of Responsibility for One's Own Learning	.04	.23	5.69	.02
Age	.01	.25	3.18	.08
Enrollment	.02	.28	3.24	.07
Tolerance of Risk, Ambiguity, and Complexity in Learning	.02	.29	2.48	.12
View of Learning as a Lifelong Process	.02	.31	2.23	.13
FACTOR 2: Lack of Course Relevance				
Tolerance of Risk, Ambiguity, and Complexity in Learning	.05	.05	5.68	.02
FACTOR 4: Low Personal Priority				
Self-Understanding	.17	.17	20.79	.0001
Creativity	.02	.19	2.74	.10
Initiation in Learning	.03	.22	3.87	.05
Tolerance of Risk, Ambiguity, and Complexity in Learning	.02	.25	2.82	.10

Table 26 -- Continued

SDLRS & Demographic Factors	Partial R**2	Model R**2	F	Pr > F
FACTOR 5: Cost				
Enrollment	.07	.07	7.69	.006
Age	.02	.09	2.52	.12
FACTOR 6: Personal Problems				
Gender	.09	.09	9.61	.003
Acceptance of Responsibility for One's Own Learning	.03	.12	3.26	.07

As indicated by the table, 31% of the variance of the deterrent, "lack of confidence," can be explained by the specific combination of variables. However, 69% cannot be explained by this equation. The largest percentage of the variance is attributed to the SDLRS factor, "creativity" (18 %), with the remaining 13% comprised of several other SDLRS factors and two demographic variables. Consequently, this model is not an especially strong predictor of "lack of confidence."

The DPS-G factor, "lack of course relevance," had only one SDLRS factor that comprised the model; "tolerance of risk, ambiguity, and complexity in learning." However, this factor comprised only 5% of the variance and cannot be considered a predictor of "lack of course relevance."

The SDLRS factors comprising the model in the DPS-G factor four; "low personal priority," accounted for 25% of the variance of that factor. The SDLRS factor, "self-understanding," was the only strongly significant factor with 17% of the variance. Consequently, this equation is also not a very strong predictor of "low personal priority."

The demographic variables of "age" and "previous enrollment in a college course for credit" were both significant variables in the prediction equation for the DPS-G factor "cost." However, since 91% of the variance in this equation cannot be explained by this model, it is not a strong predictor of "cost" as a deterrent to participation.

The last DPS-G variable, "personal problems," had only 9% of the variance accounted for by the combination of "gender" and "acceptance of responsibility for one's own learning." Consequently, it is not a strong predictor of the deterrent, "personal problems."

From these prediction equations, a determination can be made that the significant factors in the prediction equations are at least partly responsible for predicting the deterrent factors of "lack of confidence," "lack of course relevance," "low personal priority," "cost," and "personal problems." However, the variation that can be attributed to other factors not studied may also be significant. As a result of these analyses, the hypothesis cannot totally be rejected.

Summary

Chapter 4 provided an analysis of the data obtained from 103 adults who inquired into credit programs offered through the Evening College at Maryville College, Maryville, Tennessee. Data have been analyzed using inferential statistical procedures such as general linear models, such as Least Significant Test, t-test, Duncan's, and Tukey's correlation, and multiple regression including step-wise regression. Other data in the study utilized descriptive statistical procedures such as raw number reporting, means, medians, standard deviation, percentages, and frequencies.

A summary of the findings of the study are detailed in Chapter 5 as well as conclusions, implication, and recommendations for research and practice.

CHAPTER 5

SUMMARY, CONCLUSIONS, IMPLICATIONS, AND RECOMMENDATIONS FOR FURTHER RESEARCH

The purpose of this chapter is to summarize and present conclusions drawn from the study, discuss implications, and provide recommendations for further research. The first section concentrates on the purpose and procedure of the study. The second section summarizes the major findings of the study. In the third section, conclusions relative to the findings are presented and the last two sections suggest implications and recommendations for future research and practice in adult education, particularly at the college level.

Purpose and Procedure

The present study was designed to analyze and describe the relationship between adults' perceptions of selected deterrents to participation in college-level course work and their readiness for self-directedness in learning. It is expected that the results of this study will; 1) contribute to a growing body of research and theory relative to deterrents to participation and self-directed learning readiness; 2) provide more information about the DPS-G; 3) provide additional information concerning nonparticipation patterns of adults based on degree of readiness for self-directed learning and selected demographic variables; and 4) contribute to efforts of those involved in the development and

implementation of continuing higher education and personal opportunities for adult learners. A determination of perceived deterrents to participation in college-level work, readiness for self-directed learning, and their interrelationships could be specifically applicable to decision-making relative to attracting adult learners to the college environment, types of support services that would best serve adults, and actual placement decisions relative to college course work.

Relevant literature and research related to deterrents to participation and self-directed learning readiness were reviewed to support the need and overall rationale for this study. A relationship was presented between participation and nonparticipation and between nonparticipation and self-directed learning readiness with an underlying basis in Houle's typology of learning orientations.

A random sample of 180 adults were mailed three instruments. From this number, 103 responded with useable surveys. Subjects were drawn from a total population of 340 adults who had inquired into credit evening programs offered by a four-year private, liberal arts college during a one-year period. This sample represented inquirers. No information is available regarding the subsequent commitment of noncommitment to matriculation. Subjects ranged in age from 22 to 75, with a mean age of 37 years. Men outnumbered women respondents 65% to 35% with 94% reporting Caucasian ethnicity. Only one in

five persons reported no prior college course work for credit. Of those with prior college, there was an average reported lapse in college course work of 4.5 years.

Three instruments were used to collect data for the study. Deterrents to participation was measured by the Deterrents to Participation - General (DPS-G) scale which provides a score for each of six factors or reasons for non-participation in adult education. The survey has had limited use as a research instrument, but its developers, Darkenwald & Valentine (1985), reported high alpha reliabilities for the six factors of .87, .83, .72, .64, .75, and .40 respectively, with none of the items within each factor loading on more than one factor and the majority being .60 or higher. The present study reported alpha reliabilities of .76, .74, .63, .52, .78, and .36 respectively.

The second instrument was the Self-Directed Learning Readiness Scale (SDLRS). Developed by L. M. Guglielmino (1977) it was used to collect data to determine the self-directed learning readiness of respondents. The instrument consists of 58 Likert-scale items yielding eight factor subscale scores and a total score. The scale has been used in numerous research studies with a reliability estimate of .87 and factor to total correlations ranging from .78 to .89, except one factor of .45. Strength in construct validity has also been reported. This study noted an alpha coefficient of .96 and factor to total correlations ranging from .73 to .94,

except the factor "acceptance of responsibility for one's own learning" which produced a .55 coefficient, significant at the .001 level.

The third instrument, developed by the researcher, consisted of five demographic questions. Race was excluded from further analysis because of a low number of minority inquirers available through the sample data base.

All three instruments utilized a self-report method and were distributed, along with a cover letter, to the random sample.

Findings

This section represents a summary of the study's findings. Two main research questions were proposed for this study: 1) whether a relationship exists between specific deterrents to participation and one's self-directed learning readiness and 2) whether a difference exists between DPS-G factor scores and SDLRS factor and total scores when grouped according to the specific demographic variables of age, gender, race, previous enrollment, and years elapsed since last enrollment in a college course for credit. From these research questions, eleven research hypotheses were developed. The findings are organized around these research hypotheses.

> A relationship exists between selected deterrents to participation factors and total self-directed learning readiness.

Six subhypotheses were developed to determine the relationship between DPS-G factor and SDLRS total and factor scores. A relationship was found between DPS-G factors "lack of confidence" and "low personal priority" and total self-directed learning readiness. Findings indicated that the greater the perception confidence and personal priority attributed to higher education activity, the higher the degree to which adults in this sample perceived themselves as possessing skills and attitudes associated with self-directed learning readiness.

A methodological consideration of the instrument is that the factors: "personal problems" "low personal priority" had item to factor reliabilities of .36 and .52 respectively. Caution must be taken in the analysis of these factors.

The second hypothesis examined the relationship between the six deterrent factors and the eight factors of the SDLRS.

> A relationship exists between deterrents to participation factors and self-directed learning readiness factors.

In analyzing factor scores among deterrents to participation and self-directed learning readiness, "lack of confidence" and "low personal priority" showed negative correlations to all self-directed learning readiness factors except "acceptance of responsibility for one's own learning" ($p < .05$). A second correlated relationship was determined between the deterrent factor "lack of course relevance" and the self-directed learning readiness factor "tolerance of

risk, ambiguity, and complexity in learning." A final relationship was established for the deterrent to participation factor "personal problems" and the self-directed learning readiness factor "acceptance of responsibility for one's own learning." These findings collaborate the notion that a relationship exists among one's perception of deterrents to participation and one's level of self-directed learning readiness.

In an effort to determine whether there were significant differences among specific demographic variables, deterrents to participation factor scores, and self-directed learning readiness total and factor scores, analysis of variance was performed.

Differences can be found among deterrents to participation factors and gender.

Among deterrents to participation factors, a significant difference was found among "gender" in regard to the deterrent factor "personal problems." Through tests of Least Significant Differences, it was determined that females perceive "personal problems" as a greater deterrent to participation than males.

Differences exist between self-directed learning readiness factor and total scores and gender.

The only self-directed learning readiness factor that indicated a difference according to "gender" was "love of

learning." Females had a higher mean score for the factor than males.

> Differences can be found among deterrents to participation factor scores and one's previous enrollment in a college course for credit.

Those respondents who had not previously attended college indicated higher mean scores for the factors of "lack of confidence" and "cost" indicating that those persons perceive these factors as greater deterrents to participation than those who have attended college previously.

> Differences exist between self-directed learning readiness factor and total scores and one's previous enrollment in a college course for credit.

Several differences were obtained from the analysis of this hypothesis. Persons who had not enrolled in a college course previous to completion of the survey scored lower on total self-directed learning readiness and the factors of "self-concept" and "creativity" indicating that enrollment status differs among these factors. Those indicating they had previously enrolled in a college course for credit perceived themselves as having higher self-confidence in regard to learning. In addition, those who had attended college previously had greater perceptions of their creative abilities.

> Differences can be found among deterrents to participation factor scores and age.

No relationship was determined from this hypothesis indicating that age does not seem to be a determinant of how one perceives deterrents to participation.

> Differences exist between self-directed learning readiness factor and total scores and age.

Again, no difference was found among the variables in this hypothesis. As a result, age does not seem to be a determinant of self-directed learning readiness.

> Differences can be found among deterrents to participation factor scores and the number of years elapsed since last enrollment in a college course for credit.

The only relationship established among the variables studied in this hypothesis was between the factor "lack of confidence" and "years elapsed." Findings indicate that those with an absence from formal education of 20 years and more perceived "lack of confidence" as a greater deterrent to participation.

> Differences exist between self-directed learning readiness factor and total scores and the number of years elapsed since last enrollment in a college course for credit.

No differences were found for this hypothesis indicating the number of years since last enrollment does not seem to be a determinant of self-directed learning readiness.

> Specific deterrents to participation can be predicted by any number of combinations involving self-directed learning readiness and demographic information.

The final hypothesis examined variables from both self-directed learning readiness and demographic information that would contribute to the prediction of deterrents to participation. The regression analysis produced prediction equations for five of the six deterrent factors: "lack of confidence," "lack of course relevance," "low personal priority," "cost," and "personal problems." The most significant model produced by this method of analysis provided for only 31% of the variance for the deterrent factor "lack of confidence." All other models had less variances established for deterrent factors and, therefore, no model can be considered a strong predictor of deterrent to participation factors.

Conclusions

The following are major conclusions drawn from the findings of the investigation.

1. Six mean factor scores were established for the DPS-G. A Likert-scale was utilized with 1 indicating "not important" and 5 indicating "very important."

1. Time constraints: 2.63;
2. Cost: 2.55;
3. Low personal priority: 1.98;
4. Lack of course relevance: 1.67;
5. Personal Problems: 1.59; and
6. Lack of confidence: 1.48.

As indicated, "time constraints" was the most frequently reported deterrent factor. With a 2.63 rating of importance, this deterrent was rated as in between "slightly important" and "somewhat important." The two highest reported frequencies are both considered situational deterrents and are, therefore, deterrents external to one's control.

2. A mean SDLRS score of 228.38 for the present sample was lower than SDLRS subjects in samples characterized by higher levels of formal educational attainment such as graduate students (Guglielmino, 1977a), college faculty (Guglielmino, 1977b), undergraduate adult students (Sabbaghian, 1979), practicing Registered Nurses (Skaggs, 1981), and health professionals (Leeb, 1983). The mean SDLRS score for the present study was higher than subjects in other studies such as unspecified adults (Guglielmino, 1980), general adults (Hassan, 1981), and older adults (Brockett, 1982).

3. Significant correlations of .55 to .91 at the .0001 level of significance were reported between each of eight SDLRS factor scores and total SDLRS scores. In addition, all 58 SDLRS items significantly correlated with total scale scores (.58 to .94).

4. Significant correlations of .40 to .87 at the .001 level of significance were reported in item to factor means for each of the six deterrent factors. Factor to total

reliabilities were not obtainable since the DPS-G does not produce a total score.

5. Significant correlations were found between two DPS-G factors, "lack of confidence" and "low personal priority" and total SDLRS. The greater the perception of confidence and personal priority, the higher the degree to which adults in this sample perceived themselves as possessing skills and attitudes associated with self-directed learning readiness.

6. "Lack of confidence" and "low personal priority" also provided significant prediction models. This indicates that there is a predictive relationship between one's attitude toward confidence and one's sense of "creativity" and between one's attitude toward personal priority and one's sense of "self-understanding."

This is an important finding when one considers that previous research suggests that dispositional deterrents, such as "lack of confidence" and "low personal priority," are mentioned less by respondents due to their "hesitancy to admit personal misgivings." As Cross (1981) points out,

> it is far more acceptable to say that one is too busy ... or they [courses] cost too much than it is to say that one is not interested in learning, is too old, or lacks ability. (p. 107)

In addition, Cross suggests that "respondents who said they were not interested in further education were frequently dropped from further analysis eliminating the possibility for further study of this population" eliminating the possibility for further study of this population (p. 107). The findings

of the current research validates studies (Cross, 1981; Carp, Peterson, and Roelfs, 1974) that have suggested that dispositional deterrents are most often cited by persons who are not participating in education activity and also includes respondents that lack interest or ability.

Another reason for the importance of this finding is that it helps to verify the relationship between deterrents to participation and self-directed learning readiness. This relationship is based on a "tendency to action" (Courtney, 1991) or the ability to take action for one's educational decisions and is explained more by overcoming resistance to action than by motive to take action. Adults who are able to overcome the deterrents of "lack of confidence" and "low personal priority" would be more likely to see education as a positive force and find ways of engaging in self-directed learning activity in a higher education setting. This finding suggests that educators and counselors should find ways to help inquirers into adult programs overcome "low personal priority" and "lack of confidence" in order to allow students to engage in self-directed learning in a higher education setting.

7. In the analysis of DPS-G and SDLRS factors, "lack of confidence" and "personal problems" were significantly related to seven of the eight SDLRS factors. Only "acceptance of responsibility for one's own learning" did not correlate significantly with either DPS-G factor. One reason for this

might be a methodological concern. In correlation analysis with total SDLRS scores, "acceptance of responsibility for one's own learning" correlated at r = .55, at the .001 significance level. This finding is consistent with other SDLRS studies.

8. Like previous findings of Reynolds (1984), Brockett (1982), and Hassan (1981), SDLRS scores were not found to be significantly related to age. DPS-G factors scores were also not found to be significantly related to age.

9. Other demographic variables did have significant correlations with DPS-G and SDLRS factors. Gender differed significantly among the DPS-G factor "personal problems" and the SLDRS factor "love of learning." Females tended to score higher in regard to both factors.

The finding that females tend to view "personal problems" as a greater deterrent to participation than males is consistent with the research of Johnstone and Rivera (1965). Johnstone and Rivera uncovered significant differences in deterrents to participation according to gender, particularly with regard to situational deterrents, such as personal problems, where women were more inclined to be deterred from participation as a result of situational constraints.

In regard to gender differences among the SDLRS factor "love of learning," females had a significantly higher mean score than males in the current study. This study may validate the "general characteristics of participants in adult

education population" as suggested by Courtney (1991) (p. 34-35). In addition, studies (NCES, 1991) have indicated an increased contribution by women to participation in community and economic life and the trend of increased population growth in formal education by women. It is interesting to note that the trend of women increasingly returning to higher education may not be due alone to economic conditions, but because of their greater tendency toward a love of learning.

The current study finding that gender is not significantly related to total self-directed learning readiness is contrary to the findings of Sabbaghian (1979) and Leeb (1983) where females tended to score higher than males on the total score for the SDLRS. However, the mean total SDLRS for the current study sample was lower than those studying populations with higher levels of education, such as that of Sabbaghian and Leeb.

10. "Previous enrollment in a college course for credit," also differed significantly among DPS-G factors "lack of confidence" and "cost," and among total SDLRS and the factors "self-concept" and "creativity." Both deterrent factors seemed to be greater deterrents among persons who had not previously enrolled in a college course. In addition, higher total SDLRS and higher factor means for "self-confidence" and "creativity" were determined for persons who had previous enrolled.

11. In addition to previous enrollment, the DPS-G factor "lack of confidence" and the demographic variable, "years elapsed since last enrollment" were found to be significantly different. Those persons with a lapse of 20 years or over were less likely to participate based on a "lack of confidence." This finding collaborates findings from demographic studies, such as that of NCES (1991), that indicate as the gap in enrollment in formal educational pursuits increases, the likelihood of matriculation into formal education decreases.

12. Prediction equations were determined for five of the six DPS-G factors. The model with the largest variance accounted for by SDLRS factors and demographic variables (31%) was "lack of confidence." Within this model, "creativity" contributed to 18% of the variance, while "acceptance of responsibility for one's own learning," "tolerance of risk, ambiguity, and complexity in learning," "view of learning as a lifelong process," "age," and "previous enrollment," account for the remaining 11% of the variance. In another prediction model for "low personal priority," the greatest variance accounted for was the SDLRS factor "self-understanding." It accounted for 17% of the 24% variance. Other prediction models were of less significance.

Implications for Practice in Adult Education

By the year 2000, it is estimated (Hirsch, 1968) that 22 million adults will be participating in higher education.

This has significant implications for future adult education programs and for the field of adult education, particularly in the areas of higher education institutional responsibility. Literature (Adams, 1985) suggests that educational institutions should be concerned with cultivating the capacity to help adults engage in education since education will increasingly play a greater role in one's life and functioning. According to Adams, this commitment should cultivate an adults' capacity to engage in self-planned, self-directed and initiated learning throughout all aspects of the administration process.

Results from a study (Adams, 1985) conducted in the early 1980's by the Lifelong Learning Program, Appalachian Educational Laboratory, concluded that it is the way pre-admission and admission processes are undertaken that helps determine the development of a commitment to begin or return to college. And, that this process should include consideration of the effects of impeding factors affecting adults' decision to enter college, the learner, the learning process, institutional requirements and procedures for admissions, and the information delivery systems.

The current research project has been a study of these responsibilities: the relationship between factors that impede participation, or one's decision to enter college, and the learner in relation to activity that is often described as the best way for adult to learn, self-direction in learning.

This relationship is described below in terms of implications for practice in adult education and is organized around concerns for overcoming deterrent factors, understanding the adult learning process in higher education, and institutional responsibility.

As mentioned earlier, deterrents to participation result in anxieties which in turn result in defenses that dissuade adult learners from participation in higher education. The current study has also shown that lack of self-confidence and low personal priority are the two most significant deterrents in relation to readiness for self-directed learning. Much before Darkenwald and colleagues began the development of a tool for assessing deterrents to participation, Fisher (1969) suggested that the most common educational concerns encountered by adults were; 1) lack of self-confidence in one's ability to learn; 2) unrealistic expectations of progress; 3) conflicting values and attitudes; 4) theoretical or irrelevant learning tasks; 5) seeking help too late or in wrong places; and 6) lack of efficient study habits. These deterrents to participation must be addressed within the realm of higher education if participation in academic programs is a desired outcome of educational institutions.

The Lifelong Learning Program (Adams, 1985) concluded that among college students, "growth" in interest for academic programs occurred through "increased learner readiness" (p. 2). Suggestions for practice to help overcome deterrents to

allow for this growth include: 1) restructuring personal, family, home, social, and work life by redistributing personal time, energy, and financial resources; 2) formulation of a commitment to return by developing personal and career goals; 3) resolving the misconception that college is similar to secondary education by realizing they have changed and that learning requires personal useful, relevant, and meaningful information; and 4) realizing that learning will be more integrative and make more sense if it is goal-oriented.

Naturally, removal of deterrents to allow for increased "growth" of learners cannot occur in a vacuum. Literature has suggested (Goldberg, 1980) that adults need to be stimulated to learn in an education environment, that they want to better themselves, but don't know how, and that they become disillusioned as they achieve greater self-realization without intervention. Goldberg (1980) and Schlossberg, *et al* (1989), among others, maintain that for the adult learner academic advising is crucial to involvement and success in higher education and that adults' increased participation necessitates increased adult counseling services. Apps (1981) and Schlossberg, *et al*, suggest that higher education institutions must recognize the necessity of outreach programs as key to participation and retention of adult learners. However, according to results of this study, those efforts must go beyond mere admission and service offerings. Literature is replete with models for attracting and retaining

adult learners. Unfortunately, most models fall short of mentioning the importance of reducing or removing deterrents to participation or the enhancement of self-directed learning efforts. Cafferella (1974) offers some suggestions for improvement in this regard by suggesting that academic counselors must be an integral part of the adult higher education process with allowances for one to come to "terms with his world" (p. 180). She suggests three levels of the academic counseling process; 1) outreach: work with individuals in assessment testing, informational services, academic, personal, and career counseling, referral work, placement and follow-up services; 2) interaction with faculty: show how counseling process is an integral part of the institution and that all staff have the same goals; and 3) interaction with community: get to know community through in-service education, seminars, workshops, clinics, and observation.

It was evident from the findings of this study that any effort to enhance participation must include allowing for increased confidence in one's ability to undertake and complete their education. Therefore, it becomes important for the academic institution, particularly the adult education counselor/advisor and faculty to be facilitating influences for this purpose. Allowances for self-direction in learning should also be made by both advisor and faculty. Effective monitoring should be established to prevent learner

disappearances. In addition, course work and the advising and outreach services should be learner-focused and allowances made for personal, academic, and career goal clarification. Orientation programs that promote learning, self-development in education and career planning, development of academic skills, and understanding of institutional policies and procedures with an interactive managed learning process is essential for recruitment and retention of adult learners.

Results from this study indicate that there is a need for the admissions process of higher education institutions to be a means for prospective students to learn about the operation of the institution, its programs, and staff. Higher education should also consider personal characteristics relative to entry requirements, allowances for flexibility in formats, delivery systems, and self-planned educational activity. Increased confidence in one's ability to undertake and complete further education will be dependent upon educational programs for adult learners that can accomplish these endeavors. Bitterman (1985) speaks to this notion:

> In the future, a college education for the adult student in a private college or university will be increasingly tailor-made to fit that individual's goals. (p. 32-33)

Recommendations for Further Research in Adult Education

This study was limited to a specific sample of potential adult learners and has limited generalizability beyond this study. However, some generalizations may be applicable to

other similar populations. The following are suggested recommendations for additional research based upon this study.

1. Further research is needed to determine similarities and differences of other types of institutions with the same type of adult inquiry base and with more diverse potential student bases. Other racial and socio-economic groups need to be studied as well as persons who are seeking credentialing other than a bachelor's degree and other types of undergraduate programs.

2. While this study was a step toward developing a relationship between perceived deterrents to participation and self-directed learning readiness, further research is needed to link the two concepts in order to develop more thorough explanations and prediction equations. Longitudinal research and pre- and post-testing may be especially appropriate to determine the degree and direction of change in adults' level of self-directed learning readiness given the removal of specified deterrents to participation.

3. Research concerning enrollment status in regard to participation as well as perceived and actual deterrents should be conducted. Often people may cite a perceived reason for non-participation, such as cost, when actually there is a more genuine reason such as lack of support.

4. Research is needed to develop effective recruiting methods that help potential adult learners overcome felt and

actual deterrents to participation and help develop self-directed learning techniques that ensure successful learning.

5. Further research involving the use of the SDLRS and the DPS-G instruments to assess decisions regarding nonmatriculated and matriculated students is recommended. As diagnostic tools, these instruments hold promise for continued study of the use of nontraditional educational activities such as learning contracts, alternate formats, and such and on participation and self-direction in learning patterns.

6. Item to factor correlation for the DPS-G indicated two questions within the factor "low personal priority" were quite low. Question 18: "Because participation would take away from time with my family," and question 23: "Because education would not help me in my job," correlated with "low personal priority" at .17 and .28 respectively. In addition, two items within the factor: "personal problems," were also quite low. Question 17: "Because of family problems," and question 22: "Because I wasn't willing to give up my leisure time" correlated with "personal problems" at .34 and .26 respectively. The possibility of modifying, replacing, or eliminating these items should be considered in future revisions of the instrument.

7. Since "previous enrollment in a college course for credit" was found to be a strong correlate with both the DPS-G

and SDLRS, it is recommended that the question be revised to report number of years of college.

8. The DPS-G should be used in adult education research in order to establish further validity and reliability of the instrument. With additional support, the DPS-G could be used to examine causation, as well as correlations and prediction.

Summary

The purpose of this chapter has been to summarize the problem, the procedure, the major findings of the study, and to offer recommendations for practice and future research. Clearly, demographic variables such as age, gender, race, previous enrollment, and lapse in enrollment are not, by themselves, deterrents to participation. It is clear from the foregoing analysis that the inclusion of a deterrents construct, as well as demographic variables within theoretical and practice models of participation, are necessary ingredients in order to accurately portray the reasons an adult chooses to participate in formal education.

For providers of adult services and education, this study demonstrates the importance of minimizing the impact of deterrents to participation for prospective learners, thus, allowing for greater readiness for self-directed learning activity. Underlying providers' use of the information in this study is its practical manifestations in marketing and recruiting endeavors. Most significant is the finding that attention to deterrent concerns of prospective clients may

have implications for increased self-directed learning readiness and, consequently, success in academic pursuits.

For scholars, it is apparent that more and better research on nonparticipation as a part of participation theory be addressed as well as increased endeavors at determining causal relationships between deterrents, self-directed learning readiness, and academic success. It is the author's hope that the data from this study has added to the growing body of knowledge regarding the deterrents adult students encounter and their relationship to readiness for self-direction in learning endeavors.

REFERENCES

References

Adams, W. W. (1985). Educational development task #1: Adults making the commitment to return to school. Unpublished manuscript. Appalachia Educatonal Laboratory, Lifelong Learning Program.

Allerton, T. D. (1974). Selected characteristics of the learning projects pursued by parish ministers in the Louisville metropolitan area (Doctoral dissertation, University of Georgia, 1974). Dissertation Abstracts International, 35, 6422A.

Anderson, D. & Darkenwald, G. G. (1979). Participation and persistence in American adult education. New York: Future Directions for a Learning Society, College Board.

Anderson, D. & Niemi, J. (1969). Adult education and the disadvantaged adult. Syracuse, NY: ERIC Clearinghouse on Adult Education, Syracuse University. (ERIC Reproduction Service No. ED 029 160).

Apps, J. (1981). The adult learner on campus. Chicago: Follett Publishing.

Aslanian, B., & Brickwell, H. M. (1980). Americans in transition: life changes as reasons for adult learning. New York: College Entrance Examination Board.

Baghi, H. (1979). The major learning efforts of participants in adult basic education classes and learning centers (Doctoral dissertation, Iowas State University, 1979). Dissertation Abstracts International, 40, 2410A.

Barriers to education for rural adults in 13 states. (1989). (ERIC Document Reproduction Service No. ED 331 643).

Bauer, B. A. (1986). The Adult Education Guided Independent Study (AEGIS) Program: An administrative case study (Doctoral dissertation, Columbia University Teachers College, 1985). Dissertation Abstracts International, 46, 2518A.

Beder, H. (1985). Defining the we. Lifelong Learning: An Omnibus of Practice and Research, 8(5), 2.

Beder, H. (1986). Basic conepts and principles of marketing. In H. Beder (Ed.) Marketing Continuing Education. San Francisco: Jossey-Bass.

Beder, H. (1990). Reasons for nonparticipation in adult basic education. Adult Education Quarterly, 40(4), 207-218.

Beder, H. & Valentine, T. (1987). Iowa's adult basic adult education students: profiles based on motivations, cognitive ability, and sociodemographic status. Des Moines, Iowa: State of Iowa Department of Education.

Benson, F. B., Jr. (1974). Learning projects of selected administrators in Tennessee colleges and universities (Doctoral dissertation, University of Tennessee, 1974). Dissertation Abstracts International, 35, 4958A.

Bitterman, J. E. (1985). Academic advising and adult education: An emerging synthesis. NACADA Journal, 5(1), 29-33.

Blackwood, C. C. (1989(. Self-directedness and hemisphericity over the adult life span. (Doctoral dissertation, Montana State University, 1988). Dissertation Abstracts International, 50, 328A.

Blais, J. G., Duquette, A. & Painchaud, G. (1989). Deterrents to women's participation in work-related educational activities. Adult Education Quarterly, 39(4), 224-234.

Boggs, D. L., Buss, T. F. & Yarnell, S. M. (1978). Ohio citizens eligible for adult basic education. Adult Literacy and Basic Education, 2, 201-213.

Bonham, L. A. (1991). Guglielmino's self-directed learning readiness scale: What does it measure? Adult Education Quarterly, 41(2), 92-99.

Booth, A. (1961). A demographic consideration of non-participation. Adult Education, 11, 223-229.

Boshier, R. (1971). Motivational orientations of adult education participants: A factor analytic exploration of Houle's typology. Adult Education Journal, 21(2), 3-26.

Boshier, R. (1973). Educational participation and dropout: A theoretical model. Adult Education, 23,(4), 255-282.

Boshier, R. (1983). An adult basic education-oriented from of the "Education Participation Scale." Proceedings of the Twenty fourth annual Adult Education Research Conference. Montreal, Quebec, Canada.

Boshier, R. & Collins, J. B. (1985). The Houle typology after twenty-two years: A large scale empirical test. Adult Education Quarterly, 35(3), 113-130.

Botsman, P. B. (1975). The learning needs and interests of adult blue-collar factory workers. Ithaca, NY: New York State College of Human Ecology.

Boud, D. (1981). Developing student autonomy in learning. New York: Nicholas.

Box, B. J. (1983). Self-directed learning readiness of students and graduates of an associate degree nursing program (Doctoral dissertation, Oklahoma State University, 1982). Dissertation Abstracts International, 44, 679A.

Brockett, R. G., Hiemstra, R., & Penland, P. R. (1982). Self-directed learning. In C. Klevins (Ed.), Materials and methods in adult and continuing education, pp. 171-178. Los Angeles: Klevens Publications.

Brockett, R. G. (1983a). Facilitator roles and skills. Lifelong Learning: The Adult Years, 6(5), 7-9.

Brockett, R. G. (1983b). Self-directed learning and the hard-to-reach adult. Lifelong Learning: The Adult Years, 6(8), 16-18.

Brockett, R. G. (1983c). Self-directed learning readiness and life satisfaction among older adults (Doctoral dissertation, Syracuse University, 1982). Dissertation Abstracts International, 44, 42A.

Brockett, R. G. (1985a). Methodological and substantive issues in the measurement of self-directed learning readiness. Adult Education Quarterly, 36(1), 15-24.

Brockett, R. G. (1985b). A response to Brookfield's critical paradigm of self-directed adult learning. Adult Education Quarterly, 36(1), 55-59.

Brockett, R. G. & Hiemstra, R. (1991). Self-direction in adult learning: Perspectives on theory, research, and practice. New York: Routledge.

Brookfield, S. D. (1981). Independent adult learning. Studies in Adult Education, 13, 15-27.

Brookfield, S. D. (1984). Adult learners, adult education and the community. New York: Teachers College Press.

Brookfield, S. D. (1988). Conceptual, methodological, and practical ambiguities in self-directed learning: Application and theory. Athens: Adult Education Department of the University of Georgia.

Bruner, J. S. (1961). The act of discovery. Harvard Education Review, 31, 21-32.

Bryson, L. (1936). Adult education. New York: American Book Company.

Cafferella, R. (1974). The counseling process and continuing education. Adult Leadership, 23(6), 181-183.

Candy, P. C. (1988). Reframing research into 'self-direction' in adult education: A constructivist perspective (Doctoral dissertation, University of British Columbia, 1987). Dissertation Abstracts International, 49, 1033A.

Candy, P. C. (1991). Self-direction for lifelong learning. San Francisco: Jossey-Bass.

Candy, P. C. (1992). The inquiring mind: A study of the adult who continues to learn. In G. J. Confessore & S. J. Confessore, Guideposts to self-directed learning: expert commentary on essential concepts. King of Prussia, PA: Organization Design & Development.

Carlow, C. D. (1967). A study of variables within the method of individually guided discovery in secondary school mathematics. (Doctoral dissertation, University of Iowa, 1967). Dissertation Abstracts International, 29, 180A.

Carp, A., Peterson, R. & Roelf, P. (1974). Adult learning interests and experiences. In K. P. Cross & J. R. Valley (Eds.), Planning non-traditional studies. San Francisco: Jossey-Bass.

Cavaliere, L. A. (1989). A case study of the self-directed learning processes and network patterns utilized by the Wright brothers which led to their invention of flight. (Doctoral dissertation, Rutgers, The State University of New Jersey, New Brunswick, 1988). Dissertation Abstracts International, 49, 2894A.

Charner, I. & Fraser, B. S. (1986). Different strokes for different folks: Access and barriers to adult education and training. Paper presented to the Congress of the U.S., Office of Technology Assessment, National Institute for Work and Learning, Washington, D. C. (ERIC Document Reproduction Service No. ED 268 367).

Chene, A. (1983). The concept of autonomy: a philosophical discussion. Adult Education Quarterly, 34, 38-47.

Chimene, D. (1984). Beyond 1984: future participants in adult education. Proceedings of the Adult Education

Conference, no. 24. Montreal: Concordia University/ University of Montreal.

College Board. (1989, February). Educational statistics to 1997-98. OALS Network News, p. 1.

Combs, A. W. (1972). Fostering self-direction. In E. G. Talbert & L. E. Frase (eds.), Individualized Instruction: A book of readings. Columbus, OH: Merril.

Coolican, P. M. (1975). The learning styles of mothers of young children. (Doctoral dissertation, Syracuse University, 1973). Dissertation Abstracts International, 35, 783A-784A.

Courtney, S. (1992). Why adults learn: Towards a new theory of participation in adult education. New York: Routledge.

Cronbach, L. J. (1967). The logic of experiments on discovery. In L. S. Shulman and E. R. Keislar (Eds.), Learning by discovery: A critical appraisal. Skokie, IL: Rand McNally Co.

Crook, J. (1985). A validation study of a self-directed learning readiness scale, Journal of Nursing Education, 24(7), 274-279.

Cross, K. P. (1978). The Adult Learner. Current Issues in Higher Education. Washington, D.C.: American Association for Higher Education.

Cross, K. P. (1979). Adult learners: Characteristics, needs and interests. In R. E. Peterson (Ed.), Lifelong learning in America. San Francisco: Jossey-Bass.

Cross, K. P. (1981). Adults as learners. San Francisco: Jossey-Bass.

Curry, M. A. (1983). The analysis of self-directed learning readiness characteristics in older adults engaged in formal learning activities in two settings. (Doctoral dissertation, Kansas State Univesity, 1983). Dissertation Abstracts International, 44, 1293A.

Darkenwald, G. G. (1984). Participation in education by young adults. In G. G. Darkenwald & A.B. Knox (Eds.). Meeting educational needs of young adults. New Directions for Continuing Education, no. 21. San Francisco: Jossey-Bass.

Darkenwald, G. G. & Merriam, S (1982). Adult education: Foundations of practice. New York: Harper & Row.

Darkenwald, G. G. & Valentine, T. (1985). Factor structure of deterrents to participation in adult education. Adult Education Quarterly, 35, 177-193.

Davidson, E. W. (1976). Operation cope: Family learning center handbook with mothers who are heads of households. Washington, D. C.: National Council of Negro Women. (ERIC Document Reproduction Service No. ED 116 018).

Denys, L. O. (1973). The major learning efforts of two groups of ACCRA adults (Doctoral dissertation, University of Toronto, 1973). Dissertation Abstracts International,

Dill, W. R., Crowston, W., & Elton, E. J. (1965). Strategies for self-education. Harvard Business Review, Nov./Dec., 119-130.

Easton, S. E. (1988). Overcoming barriers to education for rural adults. Proceedings of the 29th Annual Adult Education Research Conference, Alberta, Canada: The Univversity of Calgary, (ERIC Document Reproduction Service No. ED 299 460).

Eisenman, J. G. (1989). Self-directed learning: A correlational study of fifth grade students, their parents and teachers (Doctoral dissertation, University of Georgia, 1988). Dissertation Abstracts International, 49, 2848A.

Eldred, M. (1977). University without walls, seminar in process education. Adult Education Research Conference at University of Minnesota, April 1977.

Elias, J. L. (1979). Andragogy revisited. Adult Education, 27(4), 252-256.

Fair, J. (1973). Teachers as learners: the learning projects of beginning elementary school teachers (Doctoral dissertation, University of Toronto, 1973). Dissertation Abstracts International,

Ferguson, G. A. (1981). Statistical anlysis in psychology and education (5th ed.). New York: McGraw-Hill.

Field, J. L. (1977). The learning efforts of Jamiacan adults of low literacy attainment (Doctoral dissertation, University of Toronto, 1977). Dissertation Abstracts International,

Field, L. D. (1989). An investigation into the structure, validity, and reliability of Guglielmino's self-directed learning readiness scale. Adult Education Quarterly, 39, 125-139.

Finestone, P. M. (1984). A construct validation of the Self-directed Learning Readiness Scale with labour education participants (Doctoral dissertation, University of Toronto, 1984). Dissertation Abstracts International, 46, 05A.

Fingeret, A. (1983). Social networks: A new perspective on independence and illiterate adults. Adult Education Quarterly, 33, 133-146.

Fisher, J. A. (1969). Educational counseling for adults. Des Moines, IA: Drake University. (ERIC Reproduction Service No. ED 033 419).

Flannery, D. & Apps, J. (1987). Characteristics and problems of older returning students. Madison, WI: University of Wisconsin, College of Agricultural and Life Sciences Research. (ERIC Reproduction Service No. ED 296 084).

Gerstner, L. S. (1988). On the theme and variations of self-directed learning: An exploration of the literature (Doctoral dissertation, Columbia University Teachers College, 1987). Dissertation Abstracts International, 49, 27A.

Gibbons, M., Bailey, A., Comeau, P., Schmuck, J., Seymour, S., & Wallace, D. (1980). Toward a theory of self-directed learning: A study of experts without formal training. Journal of Humanistic Psychology, 20(2), 41-56.

Goldberg, J. C. (1980). Counseling the adult learner: A selective review of the literature. Adult Education, 30(2), 67-81.

Graeve, E. A. (1987). Patterns of self-directed professional learning of registered nurses (Doctoral dissertation, University of Minnesota, 1987). Dissertation Abstracts International, 48, 820A.

Gray, W. H. & Sullins, W. R. (1988). Comparative analysis of the barriers to rural postsecondary education in two regions of the United States. Continuing Higher Education Review, 52(1), 3-14.

Grow, G. (1991). Teaching learners to be self-directed: a stage approach. Adult Education Quarterly, 41(3),

Guglielmino, L. M. (1977). Development of the self-directed learning readiness scale (Doctoral dissertation, University of Georgia, 1977). Dissertation Abstracts International, 38, 6467A.

Guglielmino, L. M. (1989). Guglielmino responds to Field's investigation. Adult Education Quarterly, 39(4), 235-240.

Guglielmino, L. M. (1991). Selected publications on the self-directed learning readiness scale. Unpublished manuscript.

Guglielmino, L. M. (1993). Norms and conversion scale for the Self-Directed Learning Readiness Scale. Boca Raton: Guglielmino & Associates.

Hassan, A. M. (1982). An investigation of the learning projects among adults of high and low readiness for self-direction in learning (Doctoral dissertation, Iowa State University, 1981). Dissertation Abstracts International, 42, 3838A.

Hayes, E. R. (1988). A typology of low-literate adults based on perceptions of deterrents to participation in adult education. Adult Education Quarterly, 39(1), 1-10.

Hersey, P. & Blanchard, K. (1982). Management of organizational behavior: utilizing human resources (4th ed.). Englewood Cliffs, NJ: Prentice-Hall.

Hiemstra, R. (1972). Continuing education for the aged: A survey of needs and interests of older people. Adult Education, 22(2), 100-109.

Hiemstra, R. (1975). The older adult and learning. (ERIC Document Reproduction Service No. ED 117 371).

Hiemstra, R. (1980). Policy recommendations related to self-directed adult learners (CEP 1). Syracuse, New York: Syracuse University Printing Service. (ERIC Document Reproduction Service No. ED 198 304).

Hirsch (1968). Counseling the adult student. In Adult Student Personnel Association, Proceedings of the Sixth Annual Convention. Monticello, NY.

Houle, C. O. (1961). The Inquiring Mind. Madison, WI: The University of Madison Press.

Houle, C. O. (1988). The Inquiring Mind. (2nd ed.). Norman, OK: Oklahoma Research Center for Continuing Professional and Higher Education, University of Oklahoma.

Hughes, A. & Grawoig, D. (1971). Statistics: a foundation for analysis. Reading, MA: Addison-Wesley.

Hughes, Rees (1983). The non-traditional student in higher education: A synthesis of the literature. NASPA Journal, 20(3), 51-64.

Illinois State Board of Higher Education. (1978). Study of Adult Learners. Springfield, IL: Illinois Board of Higher Education.

Isaac, S. & Michael, W. B. (1981). Handbook in research and evaluation (2nd ed.). San Diego: Edits.

Johns, W. E. (1973). Selected characteristics of the learning projects pursued by practicing pharmacists (Doctoral dissertation, University of Georgia, 1973). Dissertation Abstracts International, 33, 1890B.

Johnson, E. (1973). Selected characteristics of learning projects pursued by adults who have earned a high school diploma and/or high school equivalency certificate (Doctoral dissertation, University of Georgia, 1973). Dissertation Abstracts International.

Johnstone, J. W. C. & Rivera, R. M. (1965). Volunteers for learning: A study of the educational pursuits of American adults. Chicago: Aldine.

Kasworm, C. E. (1982). An exploratory study of the development of self-directed learning as an instructional/curriculum strategy. Proceedings of the Lifelong Learning Research Conference (pp. 125-129). University of Maryland, College Park, Maryland.

Kasworm, C. E. (1988a). Self-directed learning in institutional contexts: An exploratory study of adult self-directed learners in adult education. In H. B. Long and associates, Self-directed learning: application and theory, (pp. 65-98). Athens, GA: University of Georgia, Adult Education Department.

Kasworm, C. E. (1988b). Part-time credit learners as full-time workers: The role of self-directed learning in their lives. Paper presented at the annual conference of the American Association for Adult and Continuing Education, Tulsa, OK.

Kelly, N.E. (1976). A comparitive study of professionally related learning projects of secondary school teachers. Unpublished master's thesis, Cornell University.

Kerlinger, F. N. (1973). Foundations of behavioral research (2nd ed.). New York: Holt, Rinehart, & Winston.

Klevins, C. (1978). Materials and methods in continuing education. Los Angeles: Klevins.

Knowles, M. (1975). Self-directed learning. New York: Association Press.

Knowles, M. (1970). The modern practice of adult education: Andragogy versus pedagogy. New York: Association Press.

Knowles, M. (1980). The modern practice of adult education: From pedagogy to andragogy (2nd ed.). Chicago: Follett.

Knox, A. B. (1987). Adult development and learning. San Francisco: Jossey-Bass.

Krietlow, B., Glustrom, M., & Martin, C. (1981). Educational needs assessment for Wisconsin adults with less than high school graduation or GED. Madison, WI: Wisconsin State Board of Vocational, Technical, and Adult Education. (ERIC Reproduction Service No. ED 209 538).

Landers, K. (1990). The Oddi Continuous Learning Inventory: An alternate measure of self-direction in learning (Doctoral dissertation, Syracuse University, 1989). Dissertation Abstracts International, 50, 3824A.

Leean, C. & Sisco, B. (1981). Learning projects and self-planned learning efforts among undereducated adults in rural Vermont (Final Report No. 99-1051). Washington, D. C.: National Institute of Education.

Leeb, J. G. (1983). Self-directed learning and growth toward personal responsiblity: implications for a framework for health promotion. (Doctoral dissertation, Syracuse University, 1983). Dissertation Abstracts International, 45, 3A.

Lindeman, E. C. (1926). The meaning of adult education. Montreal: Harvest House.

Long, H. B. (1983). Adult learning: Research and practice. New York: Cambridge.

Long, H. B. (1987). Item analysis of Guglielmino's self-directed learning readiness scale. International Journal of Lifelong Education, 6, 331-336.

Long, H. B. (1988). Forward to the new edition. In C. O. Houle, The inquiring mind (2nd ed.). Norman, OK: Oklahoma Research Center for Continuing Professional and Higher Education, University of Oklahoma.

Long, H. B. (1989). Some additional criticisms of Field's investigation. Adult Education Quarterly, 39(4), 240-243.

Long, H. b. & Agyekum, S. K. (1983). Guglielmino's self-directed learning readiness scale: A validation study. Higher Education, 12, 77-87.

Long, H. B. & Agyekum, S. K. (1988). Self-directed learning readiness: Assessment and validation. In H. B. Long and associates, Self-directed learning: Application and theory. Athens, GA: University of Georgia, Adult Education Department.

Maryville College Evening College Catalog. (1992-93). Maryville, TN: Maryville College.

McCatty, C. (1973). Patterns of learning projects among professional men (Doctoral dissertation, University of Toronto, 1973). Dissertation Abstracts International,

McCatty, C. (1976). Patterns of learning projects among physical and health education teachers. Reporting Classroom Research, 5(2), 7-8.

McClave, J. T. & Dietrich, F. H. (1988). Statistics (4th ed.). San Francisco: Dellen.

McCoy, C. T. (1988). Self-directed learning among clinical laboratory science professionals in different organizational settings (Doctoral dissertation, University of Oklahoma, 1987). Disseration Abstracts International, 49, 187A.

McCune, S. K. (1989). A statistical critique of Field's investigation. Adult Education Quarterly, 39(4), 243-245.

Marienau, C. & Klinger, K. (1977). An anthropological approach to the educational barriers of adults at postsecondary level. Paper presented at the Adult Education Research Conference, Minneapolis, MN. (ERIC Document Reproduction Service No. ED 141511).

Martindale, Cameron, J., & Drake, J. B. (1989). Factor structure of deterrents to participation in off-duty adult education programs. Adult Education Quarterly, 39(2), 63-75.

Merriam, S. B. (1989). Contributions of qualitative research to adult education. Adult Education Quarterly, 39(3), 161-168.

Merriam, S. B. & Cafferella (1991). Learning in adulthood. San Francisco: Jossey-Bass.

Middlemiss, M. A. (1988). Relationship of self-directed learning readiness and job characteristics to job satisfaction for professional nurses. (Doctoral dissertation, Syracuse University, 1987). Dissertation Abstracts International, 49, 1035A.

Miller, H. L. (1967). Participation of adults in education: a force-field analysis. Boston: Center for the Study of Liberal Education for Adults.

Miller, N. & Botsman, P. B. (1975). Continuing education for extension agents. Human Ecology Forum, 6(2), 14-17.

Moore, D. R. (1986). An investigation of self-reports of decisions to change in prison inmates (Doctoral dissertation, Syracuse University, 1985). Dissertation Abstracts International, 46, 3570A.

Morstain, B. R. & Smart, J. C. (1974). Reasons for participation in adult education courses: a multi variate analysis of group differences. Adult Education, 24, 83-98.

Morstain, B. R. & Smart, J. C. (1977). A motivational typology of adult learners. Journal of Higher Education. 48(6), 665-679.

Mourad, S. A. (1979). Relationship of grade level, sex, and creativity to readiness for self-directed learning among intellectually gifted students (Doctoral dissertation, University of Georgia, 1979). Dissertation Abstracts International, 40, 2002A.

Murray, J. A. (1988). The effect of a clinical internship on the self-directed learning readiness of baccalaureate nursing students (doctoral dissertation, University of Iowa, 1987). Dissertation Abstracts International, 49, 1036A.

National Center for Educational Statistics (1991). Projections of Educational Statistics to 2002. Washington, D.C.: Office of Education.

National Education Association (1960). Research Bulletin, 38(4), 9.

Niemi, J. A. (1985). Fostering participation in learning. In S. H. Rosenblum (Ed.). New Directions for Continuing Education: involving adults in the educational process, no. 26. San Francisco: Jossey-Bass.

Oddi, L. F. (1984). Development of an instrument to measure self-directed continuing learning (Doctoral dissertation, Northern Illinois University, 1984). Dissertation Abstracts International, 46, 49A.

O'Keefe, M. (1977). The adult, education, and public policy. Cambridge, MA: Aspen Institute for Humanistic Studies.

Ordos, P. G. (1980). Models of motivation for participation in adult education. Proceedings of the 21st adult education research conference. Vancouver, Canada.

Palumbo, D. V. (1990). Influence of upper division education on adult nursing students as self-directed learners (Doctoral dissertation, Syracuse University, Syracuse, NY). Dissertation Abstracts International, 51, 382A.

Penland, P. (1979). Self-initiated learning. Adult Education Quarterly, 29, 170-179.

Peters, J. M. & Gordon, R. S. (1974). Adult learning projects: A study of adult learning in urban and rural Tennessee. The University of Tennessee, Knoxville, (ERIC Document Reproduction Service No. ED 102 431).

Peveto, A. E. (1989). An exploratory study of nonparticipation by older adults in organized educational activities. Paper presented at the Annual Conference of the American Association for Adult and Continuing Education, Atlantic City, NJ. (ERIC Document Reproduction Service No. ED 312 445).

Reynolds, M. M. (1984). The self-directedness and motivational orientations of adult part-time students at a community college (Doctoral dissertation, Syracuse University, 1984). Dissertation Abstracts International, 46, 571A.

Rubenson, K. (1977). Participation in recurrent education: a research review. Paper presented at meeting of National Delegates on Developments in Recurrent Education, Paris, France. Organization for Economic Copperation and Development

Russell, J. W. (1989). Learning preference for structure, self-directed learning readiness, and instructional methods (Doctoral dissertation, University of Missouri-Kansas City, 1988). Dissertation Abstracts International, 49, 1689A.

Sabbaghian, Z. S. (1980). Adult self-directedness and self-concept: An exploration of relationships (Doctoral

dissertation, Iowa State University, 1980). Dissertation Abstracts International, 40, 3701A.

Savoie, M. M. (1980). Continuing education for nurses: Predictors of success in courses requiring a degree of self-direction. (Doctoral dissertation, University of Toronto, 1979). Dissertation Abstracts International, 40, 6114A.

Scanlan, C. L. (1982). Factors deterring allied health professionals from participating in continuing education. (Doctoral dissertation. Rutgers University, 1981). Dissertation Abstracts International, 44, 359A.

Scanlan, C. L. & Darkenwald, G. G. (1984). Identifying deterrents to participation in continuing education. Adult Education Quarterly, 34(3), 155-166.

Schlossberg, N. K., Lynch. A. Q. & Chickering, A. W. (1989). Improving higher education environments for adults. San Francisco: Jossey-Bass.

Shaw, D. M. (1987). Self-directed learning and intellectual development: A correlation study. Unpublished master's thesis, Montana State University, Bozeman, MT.

Sheffield, S. B. (1964). The orientations of adult continuing learners. In D. Solomon (Ed.). The continuing learner. Chicago: Center for the study of liberal education for adults.

Shipp, T. & McKenzie, L. R. (1980). A factor analysis of nonparticipation in church adult education. Proceedings of the 21st Annual Adult Education Research Conference. Vancouver, Canada: Adult Education Research Center, University of British Columbia. (ERIC Document Reproduction Service No. ED 197 205).

Six, J. E. (1989a). Measuring the performance properties of the Oddi Continuing Learning Inventory (Doctoral dissertation, Syracuse University, 1987). Dissertation Abstracts International, 49, 701A.

Six, J. E. (1989b). The generality of the underlying dimensions of the Oddi Continuing Learning Inventory. Adult Educaton Quarterly, 40(1), 43-51.

Skaggs, B. J. (1981). The relationship between involvement of professional nurses in self-directed learning activities, loci of control, and readiness for self-directed learning measures (Doctoral dissertation. The University of Texas, Austin). Dissertation Abstracts International, 42, 1906A.

Smith, J. C. (1990). Public librarian perceptions of library users as self-directed learners (Doctoral dissertation, Syracuse University, 1989). Dissertation Abstracts International, 51, 1087A.

Solomon, D. (1964). Introduction. In D. Solomon (Ed.). The continuing learner. Chicago: Center for the study of liberal education for adults.

Spear, G. E. & Mocker, D. W. (1984). The organizing circumstance: environmental determinants in self-directed learning. Adult Education Quarterly, 35, 1-10.

Staff. (1989, February). Education statistics to 1997-1998. Office of Adult Learning Services (OALS) Network News, p 1.

Sullins, W. R. & Vogler, D. E. (1986). Barriers to rural adult education. Blacksburg, VA: Virginia Polytechnic Institute and State University, Appalachian Regional Steering Committee. (ERIC Reproduction Service No. ED 301 391).

Torrance, E. P. & Mourad, S. (1978). Some creativity and style of learning and thinking correlates of Guglielmino's self-directed learning readiness scale. Psychological Reports, 43, 1167-1171.

Tough, A. (1971). The adult's learning projects. Toronto: Ontario Institute for Studies in Education.

Tough, A. (1978). Major learning efforts: Recent research and future directions. Adult Education, 28, 250-263.

Tough, A. (1979). The adult's learning projects (2nd ed.). Austin, TX: Learning Concepts.

Tough, A., Abbey, D. & Orton, L. (1979). Anticipated benefits from learning. Unpublished manuscript (cited in Cross, K. P. (1981). Adults as Learners. San Francisco: Jossey-Bass, p. 121).

Umoren A. (1977). Learning projects: an exploratory study of learning activities of adults in select socioeconomic group (Doctoral dissertation, University of Nebraska, Lincoln, 1977). Dissertation Abstracts International, 38, 2490A.

Valentine, T. & Darkenwald, G. G. (1990). Deterrents to participation in adult education: Profiles of potential learners. Adult Education Quarterly, 41(1), 29-42.

Verner, C. & Newberry, J. S., Jr. (1965). The nature of adult participation. In C. Verner & T. White (Eds.). Adult Education. Washington, D.C.: Adult Education Association of the U.S.A.

Wiley, K. R. (1982). Effects of a self-directed learning project and preference for structure on the self-directed learning readiness of baccalaureate nursing students (Doctoral dissertation, Northern Illinois University, 1981). Dissertation Abstracts International, 43, 49A-50A.

Wlodkowski, R. J. (1991). Enhancing adult motivation to learn. San Francisco: Jossey-Bass.

Young, L. G. (1986). The relationship of race, sex, and locus of control to self-directed learning (Doctoral dissertation, University of Georgia, 1985). Dissertation Abstracts International, 46, 1886A.

Zabari, P. L. (1985). The role of self-directed learning in the continuing education of gerontological practitioners (Doctoral dissertation, University of Georgia, 1985). Dissertation Abstracts International, 46, 1060A-1061A.

Zangari, D. J. (1977). Learning projects of adult educators in Nebraska postseconday institutions (Doctoral dissertation, The University of Nebraska - Lincoln, 1977). Dissertation Abstracts International, 38, 7086A.

APPENDICES

Appendix A

Deterrents to Participation Scale - General

HOW IMPORTANT WAS EACH REASONS IN YOUR DECISION NOT TO PARTICIPATE?

REASONS	Not Important	Slightly Important	Somewhat Important	Quite Important	Very Important
13. Because my family did not encourage participation	1	2	3	4	5
14. Because of transportation problems	1	2	3	4	5
15. Because the course(s) available was of poor quality	1	2	3	4	5
16. Because I was not confident of my learning ability	1	2	3	4	5
17. Because of family problems	1	2	3	4	5
18. Because participation would take away from time with my family	1	2	3	4	5
19. Because I had trouble arranging for childcare	1	2	3	4	5
20. Because the available courses did not seem useful or practical	1	2	3	4	5
21. Because I wasn't willing to give up my leisure time	1	2	3	4	5
22. Because the course was offered in an unsafe area	1	2	3	4	5
23. Because education would not help me in my job	1	2	3	4	5
24. Because I felt unprepared for the course(s)	1	2	3	4	5
25. Because I couldn't afford miscellaneous expenses like travel, books, etc.	1	2	3	4	5
26. Because the course(s) was not on the right level for me	1	2	3	4	5
27. Because I didn't think I could attend regularly	1	2	3	4	5
28. Because my employer would not provide financial assistance or reimbursement	1	2	3	4	5
29. Because my friends did not encourage my participation	1	2	3	4	5

THANK YOU FOR TAKING THE TIME TO COMPLETE THIS QUESTIONNAIRE. YOUR ANSWERS WILL HELP TO IMPROVE ADULT LEARNING OPPORTUNITIES IN YOUR COMMUNITY.

ADULT LEARNING QUESTIONNAIRE

DIRECTIONS: Every year, more and more adults participate in some kind of higher educational activity for academic credit whether for career change, job advancement, personal enjoyment, or any other variety of reasons. However, adults sometimes find it hard to participate in these activities, even when they want to. Try to think of a credit course(s) you wanted to take during the past year or two, but never did or, if you are currently enrolled in a credit program, think of the time before you enrolled. Then look at the reasons below and decide how important each one was in your decision not to participate in an educational activity. (Please note: in the questions below, the word "course" refers to an educational activity for academic credit.

PLEASE CIRCLE ONLY ONE RESPONSE NUMBER FOR EACH REASON. IF A REASON IS NOT APPLICABLE FOR YOU, CIRCLE NUMBER '1.'

HOW IMPORTANT WAS EACH REASON IN YOUR DECISION NOT TO PARTICIPATE?

REASONS	Not Important	Slightly Important	Somewhat Important	Quite Important	Very Important
1. Because I felt I couldn't compete with younger students	1	2	3	4	5
2. Because I don't enjoy studying	1	2	3	4	5
3. Because of a personal health problem or handicap	1	2	3	4	5
4. Because I didn't have time for the studying required	1	2	3	4	5
5. Because I wanted to learn something specific, but the course(s) were too general	1	2	3	4	5
6. Because I didn't meet the requirements for the course(s)	1	2	3	4	5
7. Because the course(s) was offered at an inconvenient location	1	2	3	4	5
8. Because I couldn't afford the registration or course fees	1	2	3	4	5
9. Because I felt I was too old to take the course(s)	1	2	3	4	5
10. Because I didn't know about courses available for adults	1	2	3	4	5
11. Because of the amount of time required to finish the course	1	2	3	4	5
12. Because the course was scheduled at an inconvenient time	1	2	3	4	5

Appendix B

Self-Directed Learning Readiness Scale

Name _____ Sex _____ Birthdate _____

Date of Testing _____ Location of Testing _____

QUESTIONNAIRE

INSTRUCTIONS: This is a questionnaire designed to gather data on learning preferences and attitudes towards learning. After reading each item, please indicate the degree to which you feel that statement is true of you. Please read each choice carefully and circle the number of the response which best expresses your feeling.

There is no time limit for the questionnaire. Try not to spend too much time on any one item, however. Your first reaction to the question will usually be the most accurate.

RESPONSES

ITEMS:	Almost never true of me; I hardly ever feel this way.	Not often true of me; I feel this way less than half the time.	Sometimes true of me; I feel this way about half the time.	Usually true of me; I feel this way more than half the time.	Almost always true of me; there are very few times when I don't feel this way.
1. I'm looking forward to learning as long as I'm living.	1	2	3	4	5
2. I know what I want to learn.	1	2	3	4	5
3. When I see something that I don't understand, I stay away from it.	1	2	3	4	5
4. If there is something I want to learn, I can figure out a way to learn it.	1	2	3	4	5
5. I love to learn.	1	2	3	4	5
6. It takes me a while to get started on new projects.	1	2	3	4	5
7. In a classroom, I expect the teacher to tell all class members exactly what to do at all times.	1	2	3	4	5
8. I believe that thinking about who you are, where you are, and where you are going should be a major part of every person's education.	1	2	3	4	5
9. I don't work very well on my own.	1	2	3	4	5

	Almost never true of me; I hardly ever feel this way.	Not often true of me; I feel this way less than half the time.	Sometimes true of me; I feel this way about half the time.	Usually true of me; I feel this way more than half the time.	Almost always true of me; there are very few times when I don't feel this way
10. If I discover a need for information that I don't have, I know where to go to get it.	1	2	3	4	5
11. I can learn things on my own better than most people.	1	2	3	4	5
12. Even if I have a great idea, I can't seem to develop a plan for making it work.	1	2	3	4	5
13. In a learning experience, I prefer to take part in deciding what will be learned and how.	1	2	3	4	5
14. Difficult study doesn't bother me if I'm interested in something.	1	2	3	4	5
15. No one but me is truly responsible for what I learn.	1	2	3	4	5
16. I can tell whether I'm learning something well or not.	1	2	3	4	5
17. There are so many things I want to learn that I wish that there were more hours in a day.	1	2	3	4	5
18. If there is something I have decided to learn, I can find time for it, no matter how busy I am.	1	2	3	4	5
19. Understanding what I read is a problem for me.	1	2	3	4	5
20. If I don't learn, it's not my fault.	1	2	3	4	5
21. I know when I need to learn more about something.	1	2	3	4	5
22. If I can understand something well enough to get a good grade on a test, it doesn't bother me if I still have questions about it.	1	2	3	4	5
23. I think libraries are boring places.	1	2	3	4	5
24. The people I admire most are always learning new things.	1	2	3	4	5

	Almost never true of me; I hardly ever feel this way.	Not often true of me; I feel this way less than half the time.	Sometimes true of me; I feel this way about half the time.	Usualy true of me; I feel this way more than half the time.	Almost always true of me; there are very few times when I don't feel this way
25. I can think of many different ways to learn about a new topic.	1	2	3	4	5
26. I try to relate what I am learning to my long-term goals.	1	2	3	4	5
27. I am capable of learning for myself almost anything I might need to know.	1	2	3	4	5
28. I really enjoy tracking down the answer to a question.	1	2	3	4	5
29. I don't like dealing with questions where there is not one right answer.	1	2	3	4	5
30. I have a lot of curiosity about things.	1	2	3	4	5
31. I'll be glad when I'm finished learning.	1	2	3	4	5
32. I'm not as interested in learning as some other people seem to be.	1	2	3	4	5
33. I don't have any problem with basic study skills.	1	2	3	4	5
34. I like to try new things, even if I'm not sure how they will turn out.	1	2	3	4	5
35. I don't like it when people who really know what they're doing point out mistakes that I am making.	1	2	3	4	5
36. I'm good at thinking of unusual ways to do things.	1	2	3	4	5
37. I like to think about the future.	1	2	3	4	5
38. I'm better than most people are at trying to find out the things I need to know.	1	2	3	4	5
39. I think of problems as challenges, not stopsigns.	1	2	3	4	5
40. I can make myself do what I think I should.	1	2	3	4	5

		Almost never true of me; I hardly ever feel this way.	Not often true of me; I feel this way less than half the time.	Sometimes true of me; I feel this way about half the time.	Usually true of me; I feel this way more than half the time.	Almost always true of me; there are very few times when I don't feel this way.
41.	I'm happy with the way I investigate problems.	1	2	3	4	5
42.	I become a leader in group learning situations.	1	2	3	4	5
43.	I enjoy discussing ideas.	1	2	3	4	5
44.	I don't like challenging learning situations.	1	2	3	4	5
45.	I have a strong desire to learn new things.	1	2	3	4	5
46.	The more I learn, the more exciting the world becomes.	1	2	3	4	5
47.	Learning is fun.	1	2	3	4	5
48.	It's better to stick with the learning methods that we know will work instead of always trying new ones.	1	2	3	4	5
49.	I want to learn more so that I can keep growing as a person.	1	2	3	4	5
50.	I am responsible for my learning — no one else is.	1	2	3	4	5
51.	Learning how to learn is important to me.	1	2	3	4	5
52.	I will never be too old to learn new things.	1	2	3	4	5
53.	Constant learning is a bore.	1	2	3	4	5
54.	Learning is a tool for life.	1	2	3	4	5
55.	I learn several new things on my own each year.	1	2	3	4	5
56.	Learning doesn't make any difference in my life.	1	2	3	4	5
57.	I am an effective learner in the classroom and on my own.	1	2	3	4	5
58.	Learners are leaders.	1	2	3	4	5

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Appendix C

Background Information Questionnaire

BACKGROUND INFORMATION QUESTIONNAIRE

DIRECTIONS: The Background Information Questionnaire is designed to provide the study with information concerning the characteristics of its participants. By answering the follwoing questions, you will help in identifying who the adults are that experience deterrents to participation in adult education and their degree of self-directed learning readiness. The information you supply will be kept confidential and will be used only for research purposes. If any question requests information that you do not wish to provide, feel free to omit it. Please fill in the ovals indicating your responses or write in the requested information. Select only ONE response for each item.

1. What is your age? _____

2. What is your gender?
   - O Male
   - O Female

3. What is your race?
   - O African-American
   - O American Indian
   - O Caucasian
   - O Mexican-American
   - O Asian-American
   - O Other (specify)_____

4. Have you previously enrolled in a college course for credit?
   - O Yes
   - O No

5. If you answered yes to question #4, how many years has elapsed since your last enrollment in a college course for credit?

   _____

Appendix D

Cover Letter

1~

2~
3~
4~

Dear 5~:

Your participation in this unique study is very important. As a part of my doctoral studies, I have chosen research which will help advisors, counselors, and faculty of adults provide better academic services and programs. It is hoped that the findings of this study will impact learning opportunities for adults and your participation will contribute to this new knowledge. The study has 3 components: a general questionnaire, a survey of deterrents you have experienced which prevented you from enrolling in a college or university directly after high school, and a survey to determine your degree of self-directed learning readiness.

There are no known risks to your participation in this study and your identity will be kept confidential. Only the project director will have access to your completed questionnaires which will be stored in a locked file in the Office of Continuing Education at Maryville College. Your return of the questionnaires constitutes your informed consent to participate in the study. You may discontinue your participation at any time and for any reason.

The three questionnaires will require about 30 minutes of your time. Please ignore the information at the top of the SDLRS-A questionnaire: name, sex, birthdate, date of testing, and location of testing. The SDLRS-A is the only questionnaire that uses an answer sheet for your answers. Answers to the other two questionnaires: Background Information Questionnaire and Adult Learning Questionnaire may be placed directly on the questionnaires as the directions suggest.

I sincerely hope that you will complete the enclosed questionnaires and return them to me in the enclosed self-addressed, stamped envelope no later than July 5, 1993. Your quick response will be greatly appreciated. If you have any questions concerning this research, please contact Jo Wood, 981-5063 after 5:30 p.m., Monday - Friday. Thank you.

Sincerely,

Jo Wood

Appendix E

Items of the Deterrents to Participation Scale Comprising Each Factor Score

Items of the Deterrents to Participation Scale Comprising Each Factor Score*

Factor	Item
Lack of Confidence	1, 6, 9, 13, 16, 24, 29
Lack of Course Relevance	5, 15, 20, 26
Time Constraints	4, 7, 11, 12, 27
Low Personal Priority	2, 18, 21, 23
Cost	8, 25, 28
Personal Problems	3, 17, 19, 22

* Source: Darkenwald, G. G. & Valentine, T. (1985). Factor structure of deterrents to public participation in adult education. Adult Education Quarterly, 35(4), 177-193.

Appendix F

Items of the Self-Directed Learning Readiness Scale Comprising Each Factor Score

Items ofthe Self-Directed Learning Readiness Scale Comprising Each Factor Score*

Factor	Item
Love of Learning	1, 5, 8, 17, 24, 26, 28, 31, 32, 39, 45, 46, 47, 49, 51, 53, 54
Self-Concept as an Effective Learner	2, 4, 9, 10, 11, 13, 25, 27, 33, 38, 42, 57
Tolerance of Risk, Ambiguity, and Complexity in Learning	3, 6, 7, 9, 12, 19, 20, 22, 23, 29, 31, 32, 35, 44, 48, 53, 56
Creativity	25, 26, 30, 34, 36, 37, 39, 41, 43, 55
View of Learning as a Lifelong, Beneficial Process	43, 49, 52, 54, 55, 56, 58
Initiative in Learning	18, 40, 41, 42, 58
Self-Understanding	2, 4, 8, 14, 16, 18, 21, 35, 55
Acceptance of Responsiblity for One's Own Learning	15, 50

Source: Guglielmino, L. M. & Associates. (1993). Self-Directed Learning Readiness Scale: administration (Report No. 4073920379). Boca Raton, FL: Guglielmino & Associates.

Vita

VITA

Joanne M. Wood was born in Beloit, Wisconsin and graduated from Beloit Memorial High School in 1969. After an absence from formal education of 4 years, she entered Rock Valley Junior College in Rockford, Illinois and later Southern Illinois University. She completed the degree of Bachelor of Science in Home Economics Education in 1975. After another 4 year absence, she completed the degree of Masters of Science in Human Development in 1981 from Southern Illinois University. In 1988 she entered The University of Tennessee, Knoxville, and in 1994 received the degree, Doctor of Education, in Technological and Adult Education. Currently, Joanne is Director of Continuing Education at Maryville College, Maryville, Tennessee.