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**DETERRENTS TO PARTICIPATION IN ADULT LEARNING
ACTIVITIES AND LITERACY SKILLS AMONG SENIORS**

Yvon J. Cloutier

**A Doctoral Dissertation Presented to the Faculty of Education
of the University of Ottawa in Fulfillment of the Requirements
for the Degree of Ph.D.**

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Abstract

This study investigated the effect of variables that may influence the decision of seniors over the age of 60 not to participate in adult learning activities and literacy skills. Three research questions were of interest to the researcher. First, which of five socio-economic status (SES) variables (age, income, gender, employment status, education) are the best predictors of deterrents to participation in adult learning activities by seniors 60 years of age and over? Second, which of six deterrents to participation (lack of confidence, lack of course relevance, time constraints, low personal priority, cost, and personal problems) are the best predictors of participation in adult learning activities by seniors 60 years of age and over? Finally, is participation in adult learning activities by seniors 60 years of age and over a predictor of seniors' literacy skills?

To measure seniors' reasons for not participating in adult learning activities, the Deterrents to Participation Scale-General was administered. Literacy skills were measured by the Tests of Applied Literacy Skills document literacy domain. To test the factors that were expected to affect non-participation, a survey questionnaire was administered to two groups, those who were currently participating in an organized adult learning activity and those who were not.

Multiple regression estimates demonstrated that none of the regression lines could be plotted against any of the six deterrents to participation as criterion variables on the five SES variables as predictors. However, when the SES variables were held constant, only the effect of the variable *employment status* using the deterrents to participation *lack of course relevance* and *low personal priority* had a

tendency to deliver the strongest explanatory power among all other predictor variables. Furthermore, regression estimates demonstrated that none of the six deterrents to participation had any effect on participation and that document literacy skills could not be predicted as a function of participation. In addition, the DPS-G showed low reliability estimates suggesting that the instrument needs to be revised taking into consideration other dimensions of deterrents to participation that are more relevant to seniors' lives.

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CHAPTER 1

The Problem and Conceptual Framework

Concern about participation rates in adult learning activities to increase literacy skills in Canada is nothing new. The problem has been debated for years and continues to attract the interest of researchers, employers, and politicians alike (Statistics Canada, 1998). Recent large-scale assessments point to the seriousness of these concerns, particularly as they pertain to non-participation in adult literacy programs by older age groups and the extent barriers or deterrent forces contribute to the problem. The 2001 census, for example, reported that only 43% of the Canadian population aged 65 and over had a high school education, while 84% of those aged 25 to 34 had reached that level of education (Statistics Canada, 2003).

In Ontario, one person in three in the 55- to 69-year-old bracket lacks the most basic literacy skills for locating, understanding and using information from texts, and applying arithmetic operations such as balancing a cheque book (Jones, 1996). Seniors 60 years of age and over with low literacy skills are especially at risk because healthy and active living requires certain levels of literacy (Statistics Canada & HRDC, 1998). Low participation rates by seniors in literacy programs indicate that a significant proportion of the older "at risk" Canadian population is experiencing difficulty in performing tasks that are necessary for interaction and possibly even basic functioning (OECD, 1997). These figures are alarming, considering that the level of literacy required by seniors to communicate and make informed decisions today has, in fact, increased because of the rapidly changing economic and technological environment (Crompton, 1996; Lowe, 1997).

The participation of older adults in adult learning activities is of particular concern in Canada because large company layoffs, such as those from IBM, Sears, and General Motors, have put many white-collar employees out of work. These newly unemployed workers, many well into middle age often must retrain in order to secure employment (see the April 1, 1996, issue of *Fortune*).

According to Statistics Canada (2003), about half the population aged 55 to 64 continues to be active in the labour market. Estimates of the number of adults over 64 working either full-time or part-time are not well documented. This may be because the latest census (2003) has defined the Canadian working-age population as aged 25 to 64. As well, many retirees have come back into the labour market in the last few decades and many have needed to retrain at age 65 or older (Alexander, 1998), and this change has not yet been fully accounted for.

Participation in educational endeavours by the learner over age 60 is generally not for credit or formal recognition, but for immediate use, personal satisfaction and socialization (Pearce, 1991). Participation of adults in education is concentrated in the economically active population, and especially in people between 30 and 45 years of age. After this age, participation in training initiatives drops to practically half, and only 7% of the people over age 60 engage in any type of training initiative, mostly for leisure or recreation (Cardenas, 2000). For example, current research indicates that retired people and people over 60 do not participate, mainly for lack of interest (Cardenas, 2000). With younger adults, those who are under 60 years of age and participate in the labour market, non-participants are generally older, have less than a high school education, have low-paying or no jobs, and are

more frequently female and from rural areas (Martindale & Drake, 1989).

In the following segments I expand on the importance of examining deterrents to participation factors of adults over age 60 as a whole and in terms of selected socio-economic variables.

Orientation to the Problem

The objective of this study is to investigate the non-participatory behaviour in adult learning activities and literacy skills of seniors 60 years of age and over, by using a number of predictor variables described as situational, dispositional, institutional, informational, psychosocial, and socio-economic. A more extensive description of these variables is presented in a later section. The study will, however, limit its perspective to factors associated with seniors' non-participation in organized or other directed learning, that is, learning conducted under the sponsorship of a formal or informal organization or group in which an individual assumes responsibility for all or most of the activity's planning, implementation, and evaluation (Gary, 1977).

Jarvis (1985, p. 3) described three types of learning contexts: (1) Non-formal (any systematic, organized, educational activity carried on outside the formal system to provide selected types of learning to particular subgroups of the population; (2) Formal learning (the institutionalized, chronologically graded, and hierarchical educational system); and (3) Informal learning (the process whereby every person acquires knowledge, skills, attitudes, and aptitude from daily living). For the purpose of this study, the term "organized adult learning activity" could imply a combination of any of the non-formal, informal, and/or formal learning contexts.

There have been many unsuccessful attempts in the past to provide a general

definition of adult learning. The majority of these attempts were drawn from four basic orientations about adult learning: behaviourist, cognitivist, humanist, and social learning (Darkenwald & Merriam, 1982). Though these orientations do not provide a precise definition of adult learning, they do point to factors that are relevant to learning in adulthood. For example, much of adult learning theory, especially the concepts of androgogy and self-directed learning, are grounded in humanistic assumptions (Knowles, 1980). While these assumptions focus more upon individual growth and development, they also seek to understand the affective as well as intellectual dimension of individuals (Darkenwald & Merriam, 1982).

On the other hand, a behaviourist orientation to adult learning assumes that learners acquire and remember responses that lead to satisfying aftereffects such as a pay increase or a promotion (Darkenwald & Merriam, 1982). For example, learning may occur in relation to a purpose or a goal and where there are intervening variables between a stimulus and a response.

Various studies which have tried to understand the broad dimensions that deter participation appear to have adopted adult learning orientations that are composite in nature. A case in point is an investigation by Darkenwald and Valentine (1985) which identified six factors of deterrence to participation and led to the development of the Deterrents to Participation Scale-General (DPS-G; 1985). Some of the deterrent factors in the scale, such as low personal priority and personal problems, characterize the importance that feelings and emotions play in any adult learning activity: a humanistic assumption of adult learning. For example, the scale may ask respondents to rate the importance of family encouragement on

participation. Other deterrent factors, such as cost and time constraints which make behaviourist or "mechanistic" assumptions, are found in the DPS-G. That is, participation in adult education (the response to a learning stimulus) can be influenced by the expense of a course or by the course's schedule. The DPS-G asks respondents to rate the importance of course-related expenses, such as traveling and/or textbooks.

Presently, the four basic orientations mentioned above contribute to our understanding of the term "adult learning". These concepts show that adult learning is a function of motivation, comprising of choices and responsibilities. In addition, the interactions of the person, the environment, and the behaviour (learning) are significant factors of adult learning (Darkenwald & Merriam, 1982). Hence, and in terms of factors related with adults' non-participation and for the purpose of this study, adult learning is broadly defined as the intentional energy used to acquire knowledge or a skill (Scanlan, 1986). This includes taking courses or other organized educational activities or directed learning. Thus, the term "adult learning activity" refers to many types of learning activities such as computer skills training, academic upgrading, or general interest courses. In addition, a deterrent to participation represents "a reason or related group of reasons contributing to an adult's decision not to engage in organized or other directed learning activities" (Scanlan, 1986, p. 1). In the past, many attempts have been made to explain why adults are deterred from educational engagement. For example, non-participation has been related to such factors as perceived effort, dislike for school, lack of interest, age, educational attainment, gender, income, employment (Beder,

1990), and to the individual's position in the social system (Jarvis, 1985). Currently, however, the research literature is limited in determining group predispositions or the reasons behind the decisions of adults age 60 and over not to participate in adult learning activities or attain the literacy levels required for daily living.

Obviously, psychological factors are important determinants of participation, however, non-participation may not merely be a matter of motive or intent by participants. That is, the decision to participate in an adult learning activity can be examined from the point of view of the individual's motivation and from the perspective of socio-economic factors which influence that decision. A discussion of these factors, the conceptual framework for this study and three models of participation which have placed emphasis on deterrents (barriers) to participation as factors, are given later.

As for literacy, there are several reasons why it is an important factor in this study. First, it has always been characterized as a powerful determinant of an individual's life chances and quality of life (OECD, 1997). Literacy is important to senior citizens in that it may increase levels of dignity and self-confidence, helping them to adapt to difficult social, technological, and economic changes (OECD, 1997). For example, Statistics Canada (1998) indicates that one of the most critical areas where low document literacy skills can have a direct effect on seniors' lives is the failure to understand and comply with the use of prescription drugs. Not only must seniors understand the instructions contained on prescriptions or medicine bottles, they must also be able to understand appointment slips, consent forms, and health educational materials. Unfortunately, it is difficult to increase the document

literacy skills of seniors because participation rates in adult learning activities decline steadily with an increase in age (OECD, 1997).

Second, the level of literacy required of seniors today has increased due to the rapidly changing economic and technological environment (Lowe, 1997). These environmental changes are factors that influence seniors' effectiveness to locate and use information such as the ability to read English and understand printed information found on medication instructions, or follow a map for a bus route. These are some of the literacy skills measured by the TALS document domain, in which a high proportion of Canadian seniors experience difficulties. Studies (OECD & Statistics Canada, 1994; Lothian, 1993) indicate that strong document literacy skills which may enable seniors to respond to the new information economy, are fundamental and crucial for reducing the risk of becoming disadvantaged. Furthermore, research on literacy indicates that literacy outcomes vary considerably according to socio-economic status and are strongly related to educational attainment, income, and employment (Statistics Canada & HRDC, 1998).

Of interest to this researcher is not whether seniors can read but rather how well they can read to locate and use information contained in documents. Hence, the TALS document domain has been chosen because it measures applied literacy skills relevant to today's adult literacy needs and because of the research literature supporting the component's usefulness to seniors. For example, Statistics Canada (1998) found a very large minority of older Canadians with the lowest literacy level required assistance in dealing with information that is written by government agencies, businesses, and other institutions. The authors suggest that such

documentation is typically conveyed at a level that is beyond the ability of many seniors to deal with independently.

The Purpose of the Study

The purpose of this study is to investigate the effect of variables that may influence the decision of seniors age 60 and over not to participate in adult learning activities and literacy skills. Non-participation is examined through the lens of composite models of adult education and in relation to the importance of a specific literacy domain in seniors' lives. These composite models are based on the notion that non-participation is a result of complex responses to psychological, environmental, and socio-economic factors. A description of these models is provided in the following section.

Models of Participation in Adult Education

Several educational researchers have attempted to provide theoretical models of adult participation. One of the earliest researchers to make this attempt was Miller (1967). Miller's force-field model maintains that certain influences pull adults toward a desired goal as other influences push them away. The model is, however, entirely constructed on socio-economic status and disregards prior education and its effects. Others include Boshier's (1973) congruence model and Cookson's (1987) ISSTAL model. Boshier posits that people are more likely to participate in educational activities where there is some congruence between their perception of themselves (their self-concept) and the nature of the educational program/environment. However, Boshier's model almost exclusively focuses on what motivates participation and not what deters it. Cookson (1987), on the other hand,

argues that an individual's social background and roles, combined with a list of other external and internal elements, can act as a series of filters. These either discourage or challenge the learner to the point where they will either engage in further education or choose not to participate.

While many descriptive surveys have been conducted in the past, which include other deterrent variables, only Darkenwald and Valentine (1985) found six deterrent factors to be broadly generalizable to the adult population. These six factors give consideration to an adult's level of confidence, self-esteem, and self-concept from the point of view of what deters and not motivates an adult's decision to participation in adult learning activities. These concepts are only reflected in the item structure of the Deterrents to Participation Scale - General.

Neither the Boshier nor Cookson model includes the powerful effects of pre-adult factors such as past educational experiences in their equations. Furthermore, these models focus almost exclusively on what motivates participation and does not examine what deters it. However, the models of Rubenson (1977), Cross (1981), and Darkenwald and Merriam (1982) do allow for several pre-adult influences. It is the integration of these factors which has led researchers to develop complex formulations or multivariate (composite) models to determine non-participatory behaviour. As a result, these three models will be discussed at greater length in this study because their work has helped to explain non-participatory behaviour in terms of the interaction between the individual, the environment, and socio-economic variables. The discussion will continue with an examination of the common aspects of the models to support the direction of the study. These common elements speak

to the question of the association among composite factors of deterrents to participation in adult learning activities by seniors age 60 and over and their literacy skills.

The Expectancy-Valence Model (Rubenson, 1977)

Based on motivational theories, Rubenson's 1977 model of participation includes three key characteristics: (1) the socialization process; (2) the individual's conceptual apparatus; and (3) the interaction of both personal and environmental factors. The Expectancy-Valence model assumes that individuals' prior experiences, personal attributes, and current needs determine individuals' control over their situation. Decisions to participate are based on the strength of the interaction between positive and negative forces within the individual and the environment. It is the level of interaction of these factors that determines the value that is placed by an individual on an educational activity (valence) and the expectation of being successful in that activity and that it will produce a positive outcome (expectancy). The product of valence-expectancy determines the force of an individual's motivation to participate in an educational activity, and for this activity to repeat itself. How well individuals are prepared, how they perceive and interpret their environment (e.g., reference groups), what their current needs are (e.g., working conditions), and how they experience them determines whether or not they will have positive or negative perceptions of participation in an educational activity.

Individuals' perception of the environment and how they value participation in adult education is at the centre of Rubenson's model. Acquiring the discipline, the knowledge, the ambitions, and the empathy from those around us permits

participation in the life of the family and later the school and the community: this is what is commonly referred to as the socialization process (Winzer & Grigg, 1992). Perceptions are developed through the socialization process and how people perceive themselves in the environment using structural factors (values of people important to the development of one's self-concept such as family, friends, social groups). Although Rubenson has contributed to the development of participatory adult learning theory, Merriam and Caffarella (1991) indicate that "there is a need to systematically test the model" (p. 232).

The Chain-of-Response Model (Cross, 1981)

The expectancy-valence framework provided by Rubenson explained participation in educational activities by adults in terms of the forces of the interaction between an individual's prior experiences, current needs, and environment. In 1981, Cross formulated the Chain-of-Response model that centered on an individual's past experiences and external forces. It is called the Chain-of-Response model because each stage is seen as a link in a chain. Each stage influences another. The main elements in the chain are self-evaluation, attitudes about education, the importance of goals and the expectations that these will be met, life transitions, opportunities and barriers, information on educational opportunities, and the decision to participate.

Cross emphasized the notion that participatory behaviour in a learning activity is the result of one's own experiences and decisions in the life cycle. Unlike Rubenson's model which emphasizes the individual characteristics, Cross' model incorporates the influential nature of life events and transitions on participation. The

underlying assumption of the model is that any decision to participate in a learning activity is the result of a chain of responses to both psychological and environmental factors. Participation can be affected as individuals age, experience change, make decisions, and acquire and learn what they must in order to survive. Decisions to participate in adult education activities are made on the basis of experiences (negative/positive) from events or transitions such as marriage, a career change, or retirement. Aslanian and Brickwell (1980) support Cross' premise that changes during the life cycle affect participatory behaviour. They note that "trigger events" (or anticipation of such events) such as a career change may be responsible for as much as 83% of one's non-participatory behaviour in an educational activity. Other important experiences that may provoke or "trigger" participation include a reduced (or loss of) income due to retirement or widowhood, disability preventing adequate mobility, lack of user-friendly enrolment procedures, and/or learning materials that are printed too small.

The motivational implication in Cross' model is that high self-esteem, gained from positive life events, transitions or both, results in high expectations to succeed, thus motivation to participate is relatively high. The assumption is that positive responses along the chain will result in participation. That is, individuals who have clear goals and a positive attitude about education drawn from life events or transitions will expect opportunities to follow from educational participation. In regard to participatory deterrents, Cross developed a typology consisting of three major categories. Those categories involve one's situation in life at a given time (situational), practices and procedures preventing participation (institutional), and

attitudes and self-perceptions of one's self as a learner (dispositional).

The Psychosocial Interaction Model (Darkenwald & Merriam, 1982)

In 1982, Darkenwald and Merriam proposed the Psychosocial Interaction model which integrates concepts from Rubenson and Cross. The authors emphasize socio-economic status (SES) and the "learning press" (LP) as the major variables that influence participation in adult learning activities. The LP variable is defined as "the extent to which one's total current environment requires or encourages further learning" (Darkenwald & Merriam, 1982, p. 238). The authors indicate that high LP is related to high SES (and low LP to low SES) and that the LP is defined by social participation (such as in seniors organizations) and by the level of sophistication of one's career (e.g., technical, professional, managerial employment) and lifestyle (e.g., leisure time).

Socio-economic status appears the only significant addition to either Rubenson's or Cross' theory of participation. SES acts as a determinant of individuals' environment and consequently influences their opportunities and motivation for further learning. The LP is made up of norms and values acquired through social participation, occupational complexity, and lifestyle.

This model assumes that the desire to participate in an adult learning activity is influenced more by socio-economic variables (e.g., educational attainment) and environmental conditions than by individuals themselves. For example, because of their work, physicians or accountants have heavy informational demands. Hence, they would have a higher LP environment because they are involved in a higher degree of social participation. In addition, individuals with lower SES would have a

limited social environment resulting in a lower LP.

Deterrents to participation have been characterized by the authors as situational, institutional, psychosocial, and informational deterrents. Only the situational and institutional typologies are similar to Cross'. The authors define psychosocial deterrents as "individually held beliefs, values, attitudes or perceptions that inhibit participation in organized learning activities" and informational deterrents as "institutional failure to communicate information on learning opportunities" (1982, p. 137).

Summary

The above three models of participation have provided explanations and approaches to predicting participation by mapping the interaction of variables that have been shown to influence a person's decision to participate and ensuing determination in the activity. Participation has been conceptualized in diverse ways in the different models.

First, Rubenson (1977) connects a person's perception of the environment and the value of participation with positive and negative forces within the individual (personal attributes) and the environment in an adult's life. The personal variables considered in the model include the individual's prior experience and current needs (developmental tasks confronted during the life cycle). Environmental factors deemed to have an impact or constraints on one's control over one's situation include norms and values of individuals and their reference groups, and available "study possibilities" (institutional facilitators such as computers, a library, and tutors, or deterrents to continuing education). Rubenson's model represents the fact that

how individuals perceive adult learning later in life depends on their perceptions that were developed in the contexts of family, school, and work. Therefore, an individual's interests and confidence to succeed in a learning activity acquired during childhood impacts later values of participation.

Second, Cross (1981) represents participation as a result of a complex chain of responses to environmental conditions as perceived by the individual. Cross believes that the series of responses that ultimately lead to participation tend to begin with one's self-concept and attitudes toward education. As a result, the author argues that the decision to participate is influenced by one's attitude about education, important events during one's life, values and goals, and other social, environmental and experiential factors. Hence, how people respond to retirement, aging, personal problems, or using new technologies may define whether or not they participate in a learning activity.

Third, Darkenwald and Merriam (1982) believe that socio-environmental factors, particularly socio-economic status, during pre-adulthood and/or adulthood play major roles in determining participation as an adult. One's age, income, gender, or occupational status defines the way learning is perceived. For example, the value of learning (such as in the importance or priority to learn) may be perceived differently by younger, more educated working adults than by older adults with less educational attainment who are out of the labour market.

Finally, the models of Rubenson, Cross, and Darkenwald and Merriam have provided direction in the choosing of variables to investigate in this study. Collectively, they are characterized as situational, dispositional, institutional,

informational, psychosocial, and socio-economic status variables. More is said about these variables in the following sections.

The Rationale for Inclusion of Variables

By using three models of adult participation, this researcher has chosen to study deterrents to participation in adult learning activities by seniors age 60 and over, and literacy skills. This includes investigating the interrelationship between variables characterized as situational such as priority to learn, institutional such as course fees, dispositional such as self-confidence, informational such as course relevance, psychosocial such as personal problems, and socio-economic status (SES) such as gender, income, education, employment status, and age. The reasons for investigating SES variables were guided by earlier research on adult learning and participation indicating that those most in need of learning were the least likely to participate. Particular SES variables have often been found to be the reason for the difference in those who participate and those who do not. For example, non-participants have been typically older, less educated with low-paying jobs, or have been unemployed (Booth, 1961; Berner & Newberry, 1958). On the other hand, those who participate in adult learning generally have a higher income, are younger (under age 50), married, and are well educated (Houle, 1961).

Important assumptions are made in regard to these variables as they relate to the three models that were discussed earlier, and seniors as non-participants in adult learning activities and literacy skills. First, seniors see a different world now than the one they once lived in. This notion is at the forefront of Rubenson's (1977) model. The author believes that the decision to participate depends entirely on the

individual, their perception of the environment, and the value of participation. To make my point, seniors may perceive technology as an environment which presents too many challenges for them or that is beyond their ability to learn because they are "too old". For example, seniors may have to learn how to program their television set. If they perceive learning about this technology as being beyond their ability to learn, the value placed on being successful in learning it may be negative. In this case, the decision to participate depends largely on how high or low the expectations to succeed are. If the expectations are low, then they will not want to learn anything about technology. If they are high, then they will choose to participate in learning about technology. On a similar note, how seniors perceive themselves and the lack of confidence can both be dispositional barriers. According to Cross (1981) they are closely linked together. For example, if they are viewed from the negative, they deter, if they are viewed from the positive, they impel participation. If seniors are compelled to believe, for example, that there is a loss of intelligence due to aging, the result may be a lack of self-confidence in their ability to learn. Hence, seniors perception of oneself as older learners and self-confidence can become deterrents to participation.

It can be assumed that for most Canadian seniors, literacy meant reading and writing in the workplace with little or no use of technology. Developing workplace literacy is no longer required for most seniors; instead they need media literacy skills (Merriam & Caffarella, 1991). Information-based economies and societies require skills such as using automated banking machines and the Internet. With tasks perceived by younger adults (25-45) as simple, such as programing an answering

machine, seniors with low literacy skills are having difficulty seeking help to learn or getting interested in learning them (OECD, 1997). As a result, our technologically oriented society acts as a situational barrier, a context in which seniors' lives is not favourable for participation in an educational activity.

The connection of this notion to both Rubenson's (1977) and Cross' (1981) model of participation is clear. Both authors indicate the importance of positive attitudes and self-evaluation on success, thus making the chances of participation relatively high in the models. However, Cross incorporates the significance of one's life events and transitions. These are significant events that individuals move through in the life cycle such as marriage, having children, retirement, and aging. Cross referred to these events and transitions as dispositional barriers. Cross would argue that the feeling that one is too old to learn about technology stems from previous educational experiences or societal pressures that an individual is incapable of learning due to aging. Reasons for non-participation according to Cross might include situational barriers, such as the cost of taking a course to learn about technology, and institutional barriers, such as inaccessible course locations.

Understanding and using information technology successfully depends on one's literacy skills. As the demands of learning technology increase, seniors will be required to use skills that may be beyond their ability or willingness to learn. Statistics Canada (2001) indicates that the proportion of older adults (age 65 and over) who have computers in their homes is still well below that of younger adults. It is increasingly crucial that more seniors adapt to new technologies. However, to accomplish this, they must have confidence in their ability to use the technologies.

For seniors living in rural areas, the capacity to complete these essential tasks may mean the difference between social isolation and social participation. It has been noted in the past that seniors may participate in learning activities because they have a need to socialize (Schutz, 1958). Hence, how seniors perceive their expected outcomes, their ability to succeed, and sense of belonging in a technologically oriented society affects the valence and decision of participating. This is supported by Rubenson (1977).

A large percentage of seniors, especially women, have low SES and live on a reduced income. For example, Statistics Canada (1993) found that 40% of males over 65 had a household income of less than \$20,000; 45% for females. Second, seniors aged 65 and over are more likely to experience poor health (Statistics Canada, 1998). Third, seniors have a limited social environment. According to Statistics Canada (1994), 38% of seniors live alone, 15% have no friends, 20% had personal contact with their closest friend less than once a month, and 40% had personal contact with a sibling(s) within a 12-month period. Rates of limited social environment may be higher for seniors living in rural areas, or who have recently experienced divorce or widowhood (Statistics Canada, 1998). Finally, they have low educational attainment; 37% of seniors aged 65 and over have less than a grade 8 formal education (Statistics Canada, 1994). In addition, low SES decreases seniors' awareness of community resources (Statistics Canada, 1998). If seniors do not have the skills to seek or access information about educational opportunities, then obviously they will not participate.

As a result of low SES, gender, income status, employment status,

educational attainment, or age can become institutional deterrents, that is, barriers erected by learning institutions or agencies that exclude or discourage certain groups of learners (Cross, 1981). In other words, educational institutions may not take seniors' needs into consideration. For example, course registration systems and requirements may be too complex for seniors and there may be inconvenient course scheduling, or inaccessible locations. In addition, an institution's approach to learning may be designed to accommodate younger adults and not those age 60 and over. This notion is also emphasized in Darkenwald and Merriam's (1982) model but labelled informational barriers. The authors indicate that institutions print course brochures using too small a type or cramped formatting, or they fail to display brochures in places where seniors usually frequent. Institutional deterrents can lead to psychosocial barriers, such as when seniors perceive themselves too old or too slow to learn, or they transfer previous unsuccessful learning pursuits to current attempts (Darkenwald & Merriam, 1982).

Even if they have disengaged from the workforce, seniors need to develop new skills that will help them to locate and use information. More importantly, they need the encouragement to continue as life-long learners. In order to increase the participation of seniors in adult learning activities, learning conditions must be tailored to meet their needs.

Finally, the effect of prior participation such as in the lack of interest or time, one's attitude toward adult learning activities such as in feeling incapable of competing with younger students, and cohort differences such as the effect of aging on learning, are important elements in this study. The importance is not only in

relation to inner-directed as opposed to external reasons, but in relation to the transitional experiences of seniors such as in retirement or exiting the workforce. To some extent, all three models agree that internal psychological factors interact and influence the value and expectancy of a learning activity. However, not all support that they are further influenced by transitions or events during the life cycle. It is only through the interaction and the integration of all three models that this notion is supported. Only Cross' model has seriously considered these effects and the environmental structure on the participation of adults. Unfortunately, Cross' theory does not fully extend itself to explaining the participatory behaviour of adults 60 years of age and over.

It seems plausible that both attitude and self-concept are individual attributes which may influence the decisions of all adults in many different activities. On the other hand, the decisions of seniors to participate in adult learning activities, in consideration of their psychosocial, environmental, and socio-economic status, differ from younger adult age groups. This is especially true for seniors who may still be in the workforce. In fact, Cross suggests that these situations or circumstances may be critical in determining how individuals perceive, interpret, and respond to any learning situation.

This section has identified the researcher's primary reasons for investigating seniors' deterrents to participation in adult learning activities. For example, deterrents characterized as situational, dispositional, institutional, informational, psychosocial, and socio-economic were identified. There is a need to study these characteristics with older populations more closely so that we may predict which

ones most deter seniors from participating in adult learning activities, how we can increase those activities, and if participation influences literacy skills. A more detailed description of these deterrents is presented next.

Deterrents to Participation

The context in which an individual lives at a particular time may not always be favourable to participating in adult learning activities. For example, as one grows older, situational factors such as income or transportation needs change and these changes can be related to cohort differences. In addition, younger age groups may have different opinions of themselves as learners than seniors because of the differences in the value placed on learning experienced during a different socio-economic period. In a way, this is related to aging. As one grows older, contextual and environmental changes take place. Sometimes these changes appear so drastic that conditions for learning seem beyond one's reach. Lack of incentives, caregiving responsibilities, or not being aware that adult learning activities exist can deter seniors from participation (SOALS, 1992). Cross (1981) indicated that periods of change during the life cycle could influence and even predetermine learning needs.

For seniors, this implies that the decision not to participate in adult learning activities is based on past, present, or anticipated changes in their lives. Understanding these experiences can help us explain some of the common elements that are interacting with the decisions they make in the future as participants. For example, it is not well understood how seniors adapt to the influential nature of societal expectations about learning. The "you are too old to learn" stigma still pervades in our society (SOALS, 1992). As a result of this stigma,

seniors lose confidence in their abilities to learn, feel alienated and do not find learning activities relevant to their lives so learning becomes low on their priority list. This idea is maintained by Darkenwald and Merriam (1982) who indicate that one's current environmental context or "learning press" encourages or discourages further learning. That is, individually held beliefs and values may inhibit participation in organized learning activities. This psychosocial barrier represents a challenge for education agencies to become more relevant to various subgroups of older adults (Findsen, 2001).

There is much to learn about seniors' perceptions of learning, their perceptions of themselves as learners, and the forces that influence their decisions not to participate in adult learning activities such as lack of confidence or motivation. It is obvious that some degree of motivation is necessary, but motivation is not solely based on one's desire or willingness to participate. In Rubenson's (1977) model, which is based primarily on younger working adults, perceived success and the attainment of goals are equally important deterrents to participation.

The relative importance of these deterrent factors to seniors' lives can be understood for two reasons: (1) age and (2) retirement. First, seniors age 60 and over live in a society that perceives older age groups as having no desire or reason to learn. Second, in their past, seniors' decisions to participate in adult learning were made for instrumental work-related reasons. However, since disengagement from the workforce, seniors' perception of the value of education has decreased substantially. Most seniors need to evaluate whether success in a learning environment is possible and without the expectation to succeed or positive outcomes

they will not participate, nor will they be encouraged to continue as life-long learners (SOALS, 1992).

The belief that seniors' attitude, or the perception of themselves as life-long learners differ from younger age groups, the emphasis that society places on productivity and workplace learning, workforce disengagement, and aging are important factors to consider in regard to seniors' decisions to participate in adult learning. Support for these assumptions, that is, perceived success and expected outcomes, are found in the models developed by Cross (1981), Rubenson (1977), and Darkenwald and Merriam (1982). Rubenson explains them in terms of valence and expectations, Cross as institutional barriers, while Darkenwald and Merriam refer to them as psychosocial barriers.

Socio-Economic Status

Although the term "demographic variable" is widely used in the fields of sociology and psychology, in studies of participation the term socio-economic status (SES) is used almost exclusively to refer to those socio-environmental factors which influence participation in adult education (Darkenwald & Merriam, 1982).

Socio-economic status defined as educational attainment, occupational status and identity, gender, age, and income, is a significant factor in the decision of younger adults (under the age of 60) not to participate in learning activities (Darkenwald & Merriam, 1982). According to Cross (1981), the importance of SES in relation to an individual's past occupation and complexity of lifestyle can determine participation. That is, individuals with high SES are likely to participate more often in an adult learning activity than those with low SES because they value the activity

(SOALS, 1992).

The importance of SES on the participatory decisions of older adults (60 years of age and over) has not been fully explained and understood. The importance may be greater for older adults than for younger adult age groups because of the effects of workforce disengagement, adjustment to decreases in income, living standards, and a sense of belonging in the community (National Advisory Council on Aging, 2001). For example, associations between loss of identity or status as a result of seniors' disengagement from the workforce and isolation, low self-esteem, and the perception of having lost control within the environment have been reported (SOALS, 1992).

Variables associated with SES often discourage seniors from participation in adult learning activities because practices and procedures act as "institutional" barriers (Cross, 1981). According to Darkenwald and Merriam (1982), institutional barriers are synonymous with learning institutions in that they may exclude or discourage certain groups of learners because of inconvenient schedules, cost, restrictive locations, or policies and practices that impose inconvenience, confusion, or frustration on adult learners. The authors emphasize that institutional barriers result in "the failure of many adults, particularly the least educated and poorest, to seek out or use the information that is available" (Darkenwald & Merriam, 1982, p. 137). Furthermore, institutional deterrents as they relate to income, age, gender, educational attainment, and employment status have been discovered in organizations which provide learning opportunities (Cross, 1981). For example, institutions may not consider seniors' accessibility to courses or transportation needs

when planning organized adult learning activities, hence, participation becomes difficult or impossible. The literature on the effects of institutional deterrents on seniors' lives is limited and not well explained in the previously discussed models.

There is strong evidence to indicate that SES is linked to literacy skills in that literacy is strongly associated with economic life chances and well-being (OECD, 1997). Furthermore, associations between SES and health are well documented in the literature. Research indicates that social, demographic, and economic factors and practices affect the education and health of a population (Statistics Canada & HRDC, 1998). Health is not included as a variable in this study because it has been extensively researched. The multidimensional relationship between health, literacy skills and SES variables is well documented (Statistics Canada, 1990, 1993, 1994, 1996a, 1998).

Important events and changes during the life cycle are unique to every individual. For example, the transition from middle age to old age can present most people with new physical, environmental, psychological, and emotional challenges. These challenges or age-related factors can manifest themselves in the form of some decline in physical function, widowhood, reduced income as a result of retirement, changed social status, and isolation (Novak, 1988).

Rybash et al. (1991) identify two groups of age-related factors: (1) those that are due to the aging process such as in physiology, IQ performance, memory, and creativity, known as "age-related changes"; and (2) those that are due to differences in age groups known as "age-related differences" (i.e., younger vs. older cohorts). When the term "age-related factors" is used in this study, it refers to both age-related

changes and age-related differences. Adult educators need to understand many age-related factors in order to grasp the complexities of older adults' educational participation beyond what is superficially evident (Findsen, 2001). For example, they should examine the specific characteristics of older adult learners, the intellectual and creative activities that are most likely to change, and the environments within which older adult learning best proceeds (Rybash et al., 1991).

Researchers agree that within the next 20 years or so, highly industrialized or developed countries will witness one of the oldest cohorts ever to appear in the history of humankind. It seems an optimal time to begin studying the relationship between participation and SES variables in the lives of seniors, considering they are in a phase of the life cycle which has not been extensively researched. Although the theoretical frameworks which were previously discussed provided an overview of some of the factors influencing adults' decisions not to participate, few empirical data are available on factors influencing the non-participatory behaviour of adults age 60 and over and literacy skills, especially age-related factors which may be related to gender and socio-environmental conditions. The Saskatchewan Older Adult Literacy Survey (Seniors' University Group, 1992) notes that what little we know about seniors and participation in literacy programs is that seniors often have a fear of failure, low self-esteem, do not want to take the risk of participating in literacy programs, are often self-defensive and undervalue their ability to read and write.

It appears that seniors have specific needs and how they experience these needs may determine the direction of their willingness to participate in adult learning activities. This would seem to support Cross' model. For example, older adults may

not participate in educational activities because they need to have confidence in their ability to learn. Furthermore, they may not participate because the activities that are offered have no relevance to their lives, are impractical and do not captivate their interest. Hence, if we place a higher emphasis on learning about the interrelated factors that occur during the transitions from middle age (40-55) to retirement age (56-65) to old age (66+), we may begin to understand the basis of seniors' non-participatory behaviour in adult learning activities.

In conclusion, SES in terms of employment, education, income, gender, and age are factors that can deter seniors from participation in adult learning activities. It is important to understand and explain the relationship of these factors in regard to what deters seniors to participate and literacy skills.

Summary

The last Canadian census released in 2003 showed a decided aging of Canada's population. In fact, average age was a record high with half the population older and half younger than 55 (Statistics Canada, 2003). Statistics Canada (2003) clearly maintains that the aging of Canada's population will affect health care, the economy, employment, and social programs. It indicates that the number of those 80 and over jumped by 41% between 1991 and 2001, and is expected to increase by another 43% within the next 10 years.

In 1996, the estimated number of Canadians over the age of 60 with low literacy skills was high, and the rates of participation in adult learning activities to increase those skills were low (Martini & Page, 1996). As a result, this study intends to provide more current empirical evidence as to the decisions made by seniors not

to participate in adult learning activities and literacy skills. The position taken here is that non-participation is the result of a combination of deterrent factors unique to older adult populations characterized as situational, dispositional, institutional, informational, psychosocial, and socio-economic status. These deterrents range from poor design in the physical facility of an educational institution such as classrooms that have poor lighting or inadequate ventilation, an emotional environment or climate such as in administrators', teachers' or younger students' belief that seniors are too old to learn, to a lack of confidence, a poor attitude towards school, or low self-esteem.

The notion that pre-adulthood experiences (e.g., family, economic, status/identity) influence seniors' educational outcomes and thus SES is strongly supported in the literature. Whether seniors' prior education, social class, or position in society determines the same level of participation in adult learning activities as those reported by other adult age groups is not well known. These factors have been known to trigger one's consideration to participate in adult learning activities by adults under 60 years of age (Darkenwald & Merriam, 1982).

Because we live in a "learning society", remaining "in touch" after disengagement from the workforce can place heavy demands on seniors to continue to learn as life-long learners. For seniors, it is not clear if instrumental or work-related motives continue to play a major function after disengagement from the workforce. Moreover, the combination of internal (e.g., the inherent satisfaction the activity provides) and external factors (e.g., working for grades or money) has not been accounted for by the growth motivational logic (i.e., the belief that motivation

comes from sources external to participatory behaviour or from the satisfaction that the participatory behaviour itself provides) as an explanation for older adults' non-participation.

So far, three models to explain participation (Rubenson, Cross, Darkenwald and Merriam) have been the focus of this chapter. Each model and the typologies used to identify barriers to people's participation in learning activities was depicted. In an attempt to provide an explanation, this study will be based on the premise that seniors' decisions not to participate in an adult learning activity is a result of the interaction between SES factors and other dimensions of deterrents generally characterized as situational, institutional, informational, and/or psychosocial. Central to this idea is that each individual's response is based upon the position of seniors in their environmental structure and to some extent, transitions during the life cycle such as exiting the workforce or retirement, and aging. Immediately following this chapter is the supporting evidence leading to this notion.

Operational Definitions

Seniors: Throughout this study, the term "seniors" will mean adults who are 60 years of age or older.

Literacy skills: The term "literacy" in this study is used to refer to "the ability to understand and employ printed information in daily activities at home, at work and in the community in order to achieve one's goals, and to develop one's knowledge and potential" (OECD, 1997, p. 14).

Document literacy: Document literacy refers to “the knowledge and skills required to locate and use information contained in various formats, including job applications, payroll forms, transportation schedules, maps, tables and graphics” (OECD, 1997, p. 14).

Participation: For the purpose of this study, participation will refer to the decision to engage in an adult learning activity (the extent to which the learner is actively engaged in the learning event) and control (the extent to which the learner controls the content, goals, or outcomes of the event) (Merriam & Caffarella, 1991). The present researcher will refer to those who are engaged or take part in an adult learning activity as “participants”. The term “decision” refers to the act of deciding, as in the determination to engage in an activity.

Non-participation: The decision not to engage and/or behaviour of not taking part in an adult learning activity refers to non-participation. In this study, those who are not engaged or taking part in an adult learning activity are referred to as “non-participants”.

Deterrents to participation: In this study, a deterrent to participation refers to a reason or related group of reasons which contribute to or influence an individual’s decision not to engage in an adult learning activity (Scanlan, 1986).

Socio-economic status: For the purpose of this study, the term “socio-economic

status" (SES) will refer to educational attainment, employment status, income, age, and/or gender. According to most experts in the field of adult learning (Scanlan, 1981; Cross, 1981; Darkenwald & Merriam, 1982; Merriam & Caffarella, 1991) these variables have been the best predictors of participation in adult learning activities.

Adult learning: In terms of factors related to adults' non-participation and for the purpose of this study, adult learning is broadly defined as the intentional energy used to acquire knowledge or a skill (Scanlan, 1986).

Adult learning activities: The term "adult learning activity" refers to many types of learning activities that adults participate in, including taking courses or other organized educational activities or directed learning such as computer skills training, academic upgrading, or general interest courses (Scanlan, 1986).

Organized adult learning activity: Jarvis (1985, p. 3) described three types of learning contexts: (1) Non-formal (any systematic, organized, educational activity carried on outside the formal system to provide selected types of learning to particular subgroups of the population); (2) Formal learning (the institutionalized, chronologically graded, and hierarchical educational system); and (3) Informal learning (the process whereby every person acquires knowledge, skills, attitudes, and aptitude from daily living). For the purpose of this study, the term "organized adult learning activity" will refer to any source of learning that was derived from either a non-formal, formal, and/or informal learning context.

Motivation: For the purpose of this study, motivation refers to the “inducement of action, feelings, and thoughts” (Deckers, 2001, p. 19). Sources of inducement can be internal and external to an individual. Deckers (2001) divides sources of inducement into four major categories: biological sources, internal and psychological sources, environmental and cognitive sources, and emotions.

Motive: Action or behaviour does not occur spontaneously but is induced by either internal motives or environmental incentives (Atkinson, 1974). According to McClelland and Koestner (1992), a motive is a person’s internal disposition to be concerned with and approach positive incentives and avoid negative incentives. An incentive is the anticipated reward or aversive event available in the environment and that motive is linked to an incentive, since attaining an incentive is the goal of a person’s motive (McClelland & Koestner, 1992).

Need: A need is a lack or shortage of some biological, psychological, environmental, or emotional essential resulting from deprivation (Gerow, 1993).

The Research Questions

Before introducing the research questions it is important to make a distinction between predictor and criterion variables. Criterion variables are also called dependent variables: the variable that the researcher wants to explain. Predictor variables are also called independent variables: the variable expected to explain change in the dependent variable (Diekhoff, 1992).

There is really no logical sequence as to what comes first, predictor or

criterion (Diekhoff, 1992). It must be emphasized that the differentiation between predictor and criterion variables is systematic and relates only to the research purpose (Frankfort-Nachmias & Nachmias, 1992; Diekhoff, 1992). That is, it is the researcher who decides how to view them based on the research objectives. Hence, a predictor variable in one investigation may be a criterion variable in another, and the same researcher in different projects may classify the same variables in different ways (Frankfort-Nachmias & Nachmias, 1992).

This study attempts to answer three questions. They are described below and accompanied by a brief rationale. Later in the chapter, the rationales and the inclusion of variables are examined more extensively.

1) Which of five socio-economic status variables (age, income, gender, employment status, education) as measured by the Deterrents to Participation Scale-General (DPS-G) are the best predictors of deterrents to participation in adult learning activities by seniors age 60 and over? This question implies that socio-economic status is the predictor variable and participation the criterion variable.

The rationale for such a research question is in response to the research literature (Beder, 1990; Beder & Valentine, 1990; Darkenwald & Merriam, 1982; Henry & Basile, 1994) indicating the lack of a clear substantiation of the interaction between socio-economic status variables such as age, gender, income, educational attainment, employment status, and deterrents to participation in adult learning activities by seniors age 60 and over. The literature suggests that older adult learners are deterred from participation for different reasons than younger adult learners (Statistics Canada & HRDC, 1998). Studying the ways in which the

participation and socio-economic status of older adult populations interact will contribute to a theoretical understanding of adult participation.

2) Which of six deterrents to participation (lack of confidence, lack of course relevance, time constraints, low personal priority, cost, and personal problems) as measured by the Deterrents to Participation Scale-General (DPS-G) are the best predictors of participation in adult learning activities by seniors age 60 and over? This question implies that the deterrents to participation factors are the predictor variables and participation the criterion.

The rationale for this research question is in response to the need to investigate and identify nonsocio-economic status variables that deter different subgroups of individuals from participating in adult education (Beder, 1990; Toughill, Mason, Beck, & Christop, 1993; Valentine & Darkenwald, 1990). Many systems of characterizing nonsocio-economic status variables have been developed to explain participation. The most often cited systems (Cross, 1981; Darkenwald & Merriam, 1982; Rubenson, 1977) have used typologies that include situational (associated with individual life circumstances, particularly in terms of career and social roles); dispositional (associated with values, attitudes, beliefs, or opinions); and psychological (associated with individual psychological or personality traits). While many studies (Beder & Valentine, 1990; Boshier, 1986; Cookson, 1987; Cross, 1981; Darkenwald & Valentine, 1985; Merriam, 1987; Scanlan & Darkenwald, 1984) have investigated situational, dispositional, and psychological variables that deter younger adults (16-59), there exists a need to explain the variables that deter older populations (60 and over) from participation.

3) Is participation (as measured by the Participation Survey) in adult learning activities by seniors age 60 and over a predictor of seniors' literacy skills (as measured by the Tests of Applied Literacy Skills, TALS document domain)? This research question implies that participation is the predictor variable and document literacy level the criterion.

The present researcher wants to know if seniors' participation or non-participation in adult learning activities (the predictor variable) has an impact on document literacy level (the criterion variable) as determined by the TALS. The assumption is that the level of document literacy is influenced by participation in any organized adult learning activity. Since the Participation Survey asked respondents to rate their level of activity in any organized adult learning context, the implication is that respondents participated in and learned from activities that were delivered through "informal" modes rather than solely "formal".

Jarvis (1985, p. 3) describes formal learning as "learning that occurred in an institutionalized and hierarchical educational system" (such as taking a course for credit towards a diploma). On the other hand, the author describes informal learning as "the process whereby every person acquires knowledge, skills, attitudes and aptitude from daily living" (1985, p. 3). The author also includes a third learning context, that of non-formal learning. Jarvis (1985, p. 3) describes non-formal learning as "any systematic, organized, educational activity carried on outside the formal system to provide selected types of learning to particular subgroups of the population." Thus, in an informal learning context, seniors can learn from leisure activities such as reading a newspaper, watching television, or from other sources

such as knitting and quilting with friends. These activities are usually delivered by seniors organizations throughout the province of Ontario.

Currently we don't know if participation in an informal learning context impacts one's literacy skills. It is possible that for many seniors who don't participate in a formal learning context, literacy skills may be increased by learning at home with the help of a friend, family member, a neighbour, or the media. The positive effect of participating in an informal learning context on literacy has been documented in the past (IALS, 1995). The idea, however, has never been empirically tested before.

Within their environment and social context, many older adults may have the literacy or decoding skills that meet their needs even though they may not have completed a formal educational hierarchy (Barton & Hamilton, 2000). Hence, the researcher wants to know if participation in an informal learning context by seniors has an impact on document literacy level. This question may help us to make sense of the fact that a large percentage of Canadian adults are considered to have inadequate literacy skills, and yet only a small fraction of them sign up for literacy programs (IALS, 1995).

The Organization of the Thesis

The remainder of this thesis is organized according to four chapters. Chapter 2 includes the review of the literature. First, it examines findings from the International Adult Literacy Survey, literacy programs for seniors, and motivation. The chapter explores what is known in the research literature about current issues of participation and barriers to learning among older adults, and ends with a review of seniors organizations.

In chapter 3, I introduce the method that was used for the study. I discuss how the research was designed including a description of the sample and population, the instruments of measure, data collection, and analytic procedures. In chapter 4, the research findings are presented and described in detail according to each research question; additional findings are also mentioned. Chapter 5 is the discussion/conclusion section. In this chapter, the research findings are summarized, and limitations and contributions to knowledge are examined. Furthermore, implications for practice and areas for further research are presented for consideration.

CHAPTER 2

The Review of the Literature

Introduction

The purpose of this chapter is to examine the research literature on participation and literacy among seniors. The chapter begins with an examination of the International Adult Literacy Survey, one of the most ambitious and comprehensive studies ever undertaken by a group of international researchers in the field of adult literacy. Next, a discussion takes place on literacy programs for seniors.

Often, it is necessary to make a distinction between motivation linked to participation and motivation as it applies to non-participation. Therefore, to clarify any obscurity, differences between participation and non-participation are examined. The reader is then introduced to some of the most applicable motivational factors of this study. The next segment examines issues of participation and barriers to learning for older adults. They include, but are not limited to, course relevance, cohort and gender differences, technology, employment and activity following retirement, and older adults' perceptions and attitudes about learning. This is followed by a discussion which accentuates the contributions made by seniors organizations and their impact on participation.

The International Adult Literacy Survey

The International Adult Literacy Survey (IALS; OECD, 1997) represents the first systematic and large-scale assessment of adult literacy skills taken from different countries. The IALS was specifically designed using an applied approach.

The applied approach is derived from surveys designed to measure literacy in the context of the economic prosperity and social well-being of the nation, that is, the focus is on the ability to adapt to the literacy context of the society (Sabatini, 1995).

The IALS defines "literacy" as the ability to understand and employ printed information in daily activities at home, at work, and in the community. The survey considers three domains of literacy: (1) Prose (the ability to understand and use information); (2) Document (the ability to locate and use information); and (3) Quantitative (the ability to apply arithmetic operations). Not all researchers agree that literacy skills can be classified into such domains. Sabatini (1995), for example, does not support the assumption that basic skills in reading will transfer to applied prose and document literacy tasks.

In an industrialized country like Canada, the significance of literacy can be complex involving a "multiplicity of skills" (OECD, 1997, p. 14). For example, those with low literacy skills are the least likely to be able to read and understand written medical and health information easily. The risks of making mistakes with prescription drugs are increased because health information given by doctors or pharmacists is not well understood (OECD, 1997).

The IALS found that older Canadians have the lowest literacy levels (level 1) of any age group and are restricted in their daily activities, often depending on others for help. They report that more than 1.6 million people in Canada over the age of 65 are unable to read a newspaper, understand a bus route, or balance a cheque book (OECD, 1997). Similar results were found for seniors living in Ontario. Over one third of those over the age of 55 attained level 1 literacy (Jones, 1996). This group had

the lowest educational attainment with only 44% having completed secondary school and only 66% having finished grade 9. They often rated themselves as "poor" on self-ratings of literacy skills for daily life and expressed dissatisfaction with their skills more often than those with higher literacy skills (Jones, 1996).

To provide a better understanding of seniors in adult literacy and learning activities, two existing Canadian literacy programs are discussed in the next section.

Literacy Programs for Seniors

Even though adult literacy programs for seniors have been recognized as essential services, very few of them have met seniors' needs through existing adult literacy activities to increase seniors' literacy skills (Rutherford, 1989). Those programs that have been successful have made significant contributions to the seniors community. First, The Centre for the Study of Adult Literacy at Carleton University (Ottawa, Ontario), completed a three-year report on a literacy program which took place at Medicine Hat College in Alberta called "Something Special for Seniors" (Lothian, 1993). The report indicates that participation in the program led to increases in reading, writing, and mathematical skills and that seniors gained confidence from their literacy successes. For these essential elements to be maintained, the study found that trust, respect, and rapport was needed between particular tutors and learners. Learners needed to feel good about their efforts and to feel rewarded, and these feelings inspired further learning. Seniors' literacy successes were attributed to four factors: (1) length of time in the program; (2) past literacy skills; (3) social, emotional, and physical well-being; and (4) the degree of consensus between a learner's and tutor's view of how to achieve the learner's

goals.

A second example is "The Writers, Young and Old Program" from the College of New Caledonia, Prince George, British Columbia. This program publishes a collection of stories written by members of "Seniors' Writing Circles" and "Fundamental Level Students" (Lothian, 1993). It provides seniors with the opportunity of developing and using the literacy skills necessary to put their experiences on paper.

These programs indicate that as literacy concepts are learned and reinforced by the use of rewards, such as certificates, learning can be easily transferred to other contexts or adult learning activities (Lothian, 1993). Results show that through these processes, the participants' level of independence and confidence increased. In addition, when rapport, respect, and trust were aspects of the program, learning became more effective and problem solving skills increased. On the other hand, some seniors reported feeling "dumb" or "shy" about their limited reading and writing abilities while others reported living in fear or shame and hid their limited skills by relying on persons close to them, or their memory. The reports, however, indicate that for most seniors, participation in these educational activities led to higher levels of self-esteem and independent living. They suggest that participation in any learning activity can become an exercise in literacy and extend itself to other adult literacy education activities. That is, adult learning activities can contribute in an important way to seniors' reading, writing, and arithmetic skills (Statistics Canada & HRDC, 1998).

In conclusion of this section, programs such as those presented above are

examples that seniors continue to improve their literacy and numeracy skills by participating in adult learning activities. Their achievements are self-defined and enrich their lives through increased independence and self-esteem. In light of the evidence presented by participation research and on literacy, it is important to examine: (a) the frequency of adult learning activities among seniors; (b) what prevents them from participating; and (c) what can or has been done in the past to increase those activities. These issues are discussed more extensively in succeeding sections. Next is a discussion on motivation as it applies to participation and non-participation.

Motivation: Participation vs. Non-Participation

This study is about participation in an educational activity and what deters seniors from it. It may, however, be easily confused with studies about motivation. This is understandable, since it seems that the available research on motivation today still has difficulty discerning which motivational factors are the major role players or determinants of participatory behaviour in adult learning activities. We know that both internal and/or external sources of motivation are needed in cultivating a motivational construct in this case a decision to participate or not. Hence, this section aspires to set apart the concept of motivation as it applies to participation and non-participation early in the dissertation.

There are basically two orientations to research on participation: (1) the focus on studying what motivates adults to participate; and (2) the focus on studying deterrents or barriers that keep adults from participating or cause them to drop out (Henry & Basile, 1994). The assumptions underlying these orientations are that

participation in adult education is a desirable end state, and that non-participants are likely to be disadvantaged, either in terms of educational level, class status, or other socio-economic indicators (Ziegahn, 1992). Implicit in these assumptions is that participation cannot be derived solely from the content of the learning activities engaged by adults, such as course relevance and course interest (Darkenwald & Merriam, 1982).

Though the motivational orientation suggests an underlying structure for the participatory behaviour, it is complex and involves multiple motivational structures. That is, older adults may engage in learning activities for other reasons than wanting to learn a skill. For example, someone may have to upgrade in order to keep their job, and others may learn because the activity provides a form of social interaction. In addition, participants can learn because they are goal-oriented, activity-oriented, or learning-oriented (Houle, 1961).

Most researchers today agree that the decision to participate (or not) in an adult learning activity involves more complex interacting variables (internal and/or external), which make up the behavioural configuration or motivational construct. For example, valence of goals and expectation that participation will meet goals is noted in Cross' (1981) Chain-of-Response model, and in Darkenwald and Merriam's (1982) Psychosocial Interaction model. They stress that it is important for adults to be able to perceive the value and utility of participating in an educational activity.

Other Motivational Factors on the Decision to Participate

In order for behaviour to be put into action, a balance between internal and external sources of motivation is required (Deckers, 2001). That is, when the level

of motivation exceeds the required dosage from both sources of motivation, action occurs; when the level falls below both sources, action does not occur (Kimble, 1990). In some cases, however, fewer external sources of motivation and more internal sources may be what it takes to make things happen (Deckers, 2001). For example, someone may not like their occupation because they find it boring or too physically demanding but may put up with it for years hoping for a promotion. The assumption is that even though there may not be much in terms of external sources of motivation such as less physical demands, an internal source such as someone's aspirations may provide enough fuel to move the behaviour into action.

A person may be moved into action only if the probability of successfully achieving a task (initially targeted by the behaviour) is perceived as high and if the person sees the incentive value of that success (McClelland & Boyatzis, 1982). For instance, the lack of confidence in one's perceived ability to succeed in an adult learning activity and/or value of completing it would lower any chances of future participation. Rubenson's (1977) Expectancy-Valence model of participation emphasized this notion. Essentially, he concluded that the forces which directed someone to participate in adult learning were based on previous experience, external factors, individual needs, and more importantly, the value of incentive the goal provided. In the past, success at achieving a goal has been linked to persistence at achieving that same goal (Sherwood, 1966; Atkinson & Litwin, 1960).

Other motivational factors are important in the understanding of participatory behaviour. For example, affiliation motives are critical in establishing, maintaining, or restoring positive social relationships with other individuals or groups (McClelland

& Koestner, 1992). An affiliation motive emerges from the need to be with others and to form relationships and associations (Gerow, 1993). The importance of this need was emphasized in earlier descriptions of explanatory or composite models as an explanation for non-participation in adult learning activities (Cross, 1981; Darkenwald & Merriam, 1982; Rubenson, 1977). For example, Scanlan (1986) included the tendency toward non-affiliation as being among eight of the most important deterrent factors to participation in adult learning. The need to affiliate or be with others must be satisfied and as it suggests, it may be impossible for human beings to completely isolate or deprive ourselves from others (Gerow, 1993). Fortunately, there are many ways to express this need. For example, it can be expressed through emotional support, attention, positive stimulation, and social comparison (Hill, 1987). Social interaction by participating in various learning activities can provide seniors with this opportunity of expression (McPherson, 1990).

Issues of Participation and Barriers to Learning for Older Adults

In the past, results of participation studies among seniors have not been encouraging. Rates of participation decline with older adults 56-65, and sharply after age 65 (Organisation for Economic Co-operation and Development; OECD, 1997). For example, 14.7% of Canadians age 56-65 participate in some form of adult learning activity and training (OECD, 1997). Generally, low participation rates are linked to inadequate training location, family problems, and other interests and commitments (Darkenwald, 1986; Fingeret, 1983a; Mikulecky, 1986; Sticht, 1982, 1988).

Seniors who are involved in adult learning activities encounter many

difficulties. Some are due to logistical problems, and some are the product of incompatibility between the goals and values of program providers and those of potential participants (Reder & Green, 1985). Factors such as ethnic, socio-economic class, family, and/or individual differences may influence the nature of these limitations. In addition, seniors can perceive and experience adult learning activities as extensions or continuations of the school programs in which they have previously experienced failure, loss of self-esteem, and lack of responsiveness to their personal needs and goals (Fingeret, 1991). Our traditional understanding of participation may be rooted in "schooling" or in the same way we understand school children to participate (Wikelund, 1992). The assumption is that as we grow older, our understanding of education or of participation in adult learning stems from past learning behaviours. That is, if we enjoyed participation in school activities as children, we will enjoy participation in adulthood. Not surprisingly, the farther one manages to progress through the K-12 system, the likelier one is to participate in subsequent adult learning activity (Valentine, 1990).

At the institutional level, participation can also be contingent upon an activity's ability to generate interest or motivate (Heath, 1983). Therefore, in order to change the literate behaviour adult learning curriculum activities need to be enhanced. Even if educational activities for seniors were to improve and eliminate most of the deterrents, the growing body of research indicates that they would be more effective if instruction was "situated" within the activities, lives, values, and cultures of participants (Fingeret, 1991; Reder & Green, 1985; Tharp & Gallimore, 1988). Accordingly, participation is important in people's developmental lives and contingent

upon the environmental context, processes of development, and change over the lifespan (Elder, 1985). To this study, this belief is important because it helps us to understand why so many seniors participate or are members of recreational groups, arts organizations, social welfare agencies, community learning centres, or voluntary organizations in which they play major roles.

At the individual level, seniors face constraints such as physical limitations, loss in energy, a reduced income, widowhood, or inability to drive a vehicle (Novak, 1988). Many of these are age-related factors associated with socio-economic status. Foremost, they are situational barriers or disabilities that are commonly associated with the aging process. As a result, these barriers may prevent seniors' adequate mobility or discourage and limit access to a variety of learning opportunities (supported by Cross (1981) and Darkenwald and Merriam (1982)).

At the societal level, McPherson (1990) suggests several reasons why seniors may be restrained from active participation in adult learning activities. They include lack of information about the learning activity; local or regional norms or cultural values that may discourage the involvement of seniors in certain types of activities (e.g., formal education, income tax preparation, property management, estate planning); lack of opportunity in the absence of facilities and programs (e.g., seniors centres), especially in rural and inner city areas; poor public transportation; inflation that makes some leisure pursuits too expensive for those on a fixed income, particularly elderly women; a deteriorating and unsafe neighbourhood that induces a fear of being victimized if seniors leave the home; and (the prevalence of) myths or negative stereotypes concerning the supposed interest (or lack of) and abilities

of seniors (e.g., to study and learn, to become physically fit).

In summary, participation rates decline with age. Seniors' non-participation has been linked to deterrent factors such as socio-economic status in terms of age, gender, income, education, and employment. These deterrent factors may have an impact on seniors' decision to participate and ability to succeed in a learning situation.

There are many deterrents to participation that are unique to older adults. The research literature, however, seems to indicate that course relevance or the lack of interest in the learning activity has distinctive significance. This topic is examined next.

Course Relevance

Having the variety of activities in their setting that is necessary to maintain interest and to participate is always fortunate for older individuals. However, quantity of activities is not always what they need. Sometimes, they need what is quality: the meaning and context of the learning experience. For example, hiking can have different meanings and serve different needs at different stages in life (McPherson, 1990). Despite the activity, research shows that those who are engaged in active learning with significant others report the highest levels of life satisfaction that provides stimulation and interaction (Okun, 1984). The effect of participation or of being engaged in some form of learning activity in general on life satisfaction, well-being, or happiness, relates to many interacting factors, such as meaning and type of activity (Kelly, 1987).

Individuals can gain meaning not only from the instrumental incentive value

of the learning activity but also from within themselves (Moore, 1968). For example, individuals can be motivated because they are interested in a course, it has significance in their lives, or they perceive it as practical and useful to them. This implies that educational activities can be motivating in their own nature. That is, if the learning activity is designed to provide enough flexibility in its application (what they learn is useful in many ways), it can become a fundamental motivational device (Moore, 1968). Hooker and Ventis (1984) point out that the usefulness or meaningfulness of an activity after retirement is conducive to subjective well-being. Hence, making courses more relevant to seniors' lives will increase the level of participation.

Cohort and Gender Differences

Sometimes forces may work against the stability in aging adjustment processes that can produce significant differences in the experience of cohorts separated by several decades. According to Uhlenberg and Miner (1996), two factors may produce significant differences. First, cohorts entering aging can differ from preceding or succeeding cohorts in size, racial, and gender composition, educational background, marital and family history, work history, religious experiences, savings and pension accumulation, war experiences, political behaviour, and so forth. The National Advisory Council on Aging (2001) indicate that seniors' rates of enrolment in educational activities are lower than rates of other age groups. According to Cross (1981), cohort differences are situational barriers that relate to an individual's life context at a particular time. To Darkenwald and Merriam (1982), cohort differences represent psychosocial barriers in that inter-generational

beliefs, values, attitudes, and perceptions influence the outcomes of participation in organized learning activities.

Second, our behaviour is often shaped by the opportunities and constraints imposed by our major social institutions, therefore, changes in social structure can alter the participation patterns of different cohorts of seniors. Cross (1981) would regard these as institutional barriers: those barriers that are erected by learning institutions or agencies that exclude or discourage certain groups of learners.

Uhlenberg and Miner's (1996) aging cohort perspective outlined above provides an interesting analogy of participation as a dynamic process produced by the collective behaviour seniors who live within historical and social contexts. It also brings to our attention the critical factors that may influence the participation process and literacy skills over time. The implications are clear: participation in organized adult learning can mean different things to different people, depending upon their work history, marital status, gender, and commitment to a work identity (Spacapan & Oskamp, 1989). For example, participation patterns that are more commonly associated with older women could be studied apart from older men's participation patterns and from a life course perspective considering that: (a) most people aged 80 and older are women; (b) more than half of them live alone; and (c) the majority are poor (Statistics Canada, 2001).

It is important to examine the participation rates of older women because in every Canadian province, older women outnumber older men. Statistics Canada (2003) indicates that among Canada's seniors (65 and over) there are 75 males for every 100 females. Senior women also have a longer remaining life expectancy than

senior men. For example, people aged 100 and over numbered 3,795; 80% were women centenarians (Statistics Canada, 2003).

Since the education system is the social institution where women exceed in terms of numbers of students but are fewer proportionately in positions of responsibility (Thompson, 2000), it is important to mention gender as it relates to this study. According to McGivney (1996), women tend to predominate as "returners" to education as mature-aged students. The author maintains that their decisions to return to education are influenced by instrumental purposes as they try to reenter the labour force. Furthermore, many women have been and continue to be in low-paying jobs with limited or no pensions. Employment status and gender underlines the importance of their effect on participation.

The experience and decision to participate in learning activities after age 60 may be quite different for women than for men. Moen, Dempster-McClain, and Williams (1989, 1992) have undertaken a longitudinal study that focuses on several roles prominent in women's lives besides that of paid worker or caregiver. The researchers found that women in late mid-life in more recent cohorts are more likely than early cohorts to be in the labour force, and to participate and volunteer in multiple activities. Furthermore, these participatory roles remain prominent long after women begin exiting the paid worker role and social integration, as multiple role involvements are beneficial and important for women's health and psychosocial well-being in later years (Moen, Dempster-McClain, & Williams, 1989, 1992; Moen, Robinson, & Fields, 1993). Markides and Cooper (1989) and Morgan (1988) support these findings indicating that such multiple role occupancy is important in later

adulthood, a time, they say, when role reduction, rather than role accumulation, becomes increasingly common in our culture.

Adapting to Technology

Uhlenberg and Miner (1996) argue that changes in daily living skills and the use of communication technology can alter the survival patterns and functional ability levels of aging cohorts. For example, computer illiteracy can reduce seniors' access to course information and contact with educational, financial, and/or health institutions. The inability to use technologies is an institutional or informational barrier. Darkenwald and Merriam (1982) indicate that informational barriers are institutional failures to communicate information on learning opportunities.

Willis (1985) points out that seniors need to understand the dramatic socio-cultural changes induced by technology in their personal lives. He notes that in their youth, most seniors never received the education necessary to cope with the dramatic socio-cultural changes caused by technology. Hence, education becomes a method of overcoming fears relevant to skills and generational differences. Willis argues that technology may provoke seniors to acquire new skills in order to continue competing in the labour market.

Aslanian and Brickwell (1980) argue that a number of events such as changes in population, politics, income, inflation, and technology can trigger seniors to continue, exit, or perceive a need for adult education. These important findings suggest that lack of knowledge of technology deters participation in the lives of older adults, particularly those from earlier cohorts. That is, for older adults in their 80s and 90s who may not have technologically innovative equipment such as a

computer, a VCR or a CD player, adapting to technology may be more difficult than for those in their 60s and 70s who have had experience with newer technologies. Statistics Canada (2001) indicates that the proportion of seniors with a computer is still well below that of those under age 65. It indicates that only 8% of households headed by a senior have Internet service and seniors who live alone are less likely to own a computer. To further my point, coming from an earlier cohort may contribute to seniors' feelings about being too old to learn, or to a lack of confidence in learning about technologies. Overall, some seniors may feel that they have been excluded or discouraged to learn by institutions that emphasize the necessity of using computers in the classroom or that offer courses that are only accessible through distance learning modes. This perception is supported by Cross (1981), who argued that education may be discontinued on the basis of one's attitudes about learning and perceptions of oneself as a learner.

Income, Employment, and Activity Following Retirement

Many seniors cannot participate in adult learning activities because courses are too expensive. Others may be able to afford the courses but not the means of transportation or access via distance learning mode, especially those living in rural areas. Statistics Canada (2001) indicates that the public income security programs such as Old Age Security and Canada/Quebec Pension Plan benefits represent the main source of income of seniors, particularly women. They note that for women aged 65 and over, 25% live in a low-income situation; 48% if they are unattached (Statistics Canada, 2001). Over one-third of all seniors over 65 in Canada live alone (Statistics Canada, 2001). Most of them (62%) are women who rely on government

transfers for their income. While the majority of seniors are retired, a small proportion still participate in the paid workforce. Statistics Canada (2001) reports that in 2000, 6% of all people aged 65 and over were employed. In addition, 60% were self-employed, 43% on a part-time basis. They also indicate that half of families headed by a senior had an income below \$33,000; half of seniors living alone had an income below \$15,000.

In a survey of 216 retirees, aged 60 to 96, Toughill, Mason, Beck, and Christop (1993) investigated attitudes toward post-retirement work, perceptions of barriers to and facilitators of employment, and the influence of perceived health status and income. Contrary to what Statistics Canada (2001) found, most of the participants were not currently employed; however, 33% said that it was because they were too busy with other things such as volunteer work. The researchers found that the retirees related perceived health status to their perceptions of themselves as useful workers, their interest in working part-time, their willingness to work full-time in a time of national need, and whether they were not working due to being busy or being physically unable.

These findings are consistent with continuity theory of aging in that people feel most satisfied (and healthier) if they continue the roles and activities of their middle years (Atchley, 1989). In addition, the findings underscore the need for public policies aimed at supporting the decision of older persons to participate in any educational activity, to work, or to retire. They also imply that old age is a continuation of a person's past rather than a break with their past, or a change in direction from their past. The point is that people will choose the lifestyle in old age

most like the pattern of life they lived in middle age (Atchley, 1989). As for participation in adult learning activity in later life, continuity theory suggests that people who participate mildly in their younger years will prefer a mild level of participation in later life and feel satisfied with this lifestyle. On the other hand, people who participate actively in organized learning will want to keep up their participation, though the participation might take new forms in old age (Novak, 1988). Other findings support the idea that people enjoy old age if they continue the activities and relationships they enjoyed in the past (MacLean, 1982).

Supporting the decision of older persons to participate in adult learning may now be more important than ever since Canadians have not seen such dramatic increases in the aging of the workforce since 1921 (Statistics Canada, 2003). That is, the number of older people in the workforce is much greater than the number of workers in the younger age groups. These demographic changes may have repercussions on retirement rates as well. The National Advisory Council on Aging (2001) argues, that many seniors are forced out of the labour force because of mandatory retirement policies, a barrier to seniors' participation in the labour force. The Council promotes the abolition of mandatory retirement at age 65 in provinces where it still exists.

In the study of participation following retirement, the life course perspective can provide two useful elements of analysis: past events and the environmental context of these events. This perspective is built on the premise that the extent of any post-retirement successful involvement in either leisure, educational or volunteering activity depends on seniors' predetermined historical or social context

of events, or timing. Delisle (1992) provides some support for this notion, indicating that leisure activity increases in the three years after retirement, and remains high through ages 70 to 75, and even 80. This implies that those who are "joiners" early in life remain involved when they are older, and those who are "non joiners" early in life remain uninvolved (McPherson, 1990).

Ultimately, if participation in adult learning does contribute to retirement satisfaction, then the cultivation of an interest in learning activities earlier in life becomes very important to a satisfactory later life (McDonald & Wanner, 1990).

Older Adults' Perceptions and Attitudes About Learning

Two factors that have been found responsible for low rates of participation in learning activities by seniors are perceived lack of warmth and social disapproval (John, 1987). Cross (1979) argued that one's attitude about learning and perceptions of oneself as a learner could create barriers. She referred to them as dispositional barriers. Cross indicated that individuals who felt too old to learn could lack confidence, or be bored with school. In contrast, a positive perception of oneself as a learner can lead to a positive self-image and self-confidence in learning situations. This belief is also supported by McLeish (1983). The author believes that many older adults discontinue learning because they accept the self-fulfilling myths about age and the aging process. For example, once adults reach the age of 60, they believe that they can no longer learn or have the ability to be creative. McLeish (1983) argued that older adults can show a great deal of creative learning ability well into "old age".

Several adult learning programs have been successful in increasing seniors'

self-image of themselves as learners (Schultz & Galbraith, 1993). The Harbourview project (Cusack, 1995), for example, conducted a study with the purpose of identifying seniors' learning needs and the barriers to their meeting them, so that more seniors could enjoy the benefits of learning. Results of the project support the benefits of learning to seniors' mental, physical, and social health. Furthermore, the project was successful in helping seniors develop lifelong learning skills and increase positive attitudes about themselves as learners. That is, evaluations showed significant increases in level of self-esteem, ability to express ideas well, and the feeling of being heard (Cusack, 1995).

Participation and Seniors Organizations

Membership in a seniors organization often gives seniors a new lease on life. In fact, Brown (1996) indicates that they can provide new and crucial roles for seniors. The author indicates that one reason for their popularity is that in today's world, seniors may perceive their membership roles like work roles. The assumption is that seniors perceive themselves as having social status (an identity other than "the aged") and contributing to societal productivity (somewhat similar to the status of being employed and the identity that an occupation can provide). According to the author, because they participate voluntarily, seniors (as retirees) represent the freedom that characterizes leisure roles.

Currently, hundreds of seniors organizations in Ontario and across Canada have increased their emphasis on educational activities, especially in urban areas (Novak, 1987). The New Horizons seniors club, for example, offers opportunities to join and participate in a number of social, recreational, and educational activities that

have been developed specifically for older adults. It is not uncommon for seniors organizations to provide courses on topics such as computers, income tax filing, leadership training, or exercise. Hence, seniors organizations have become the perfect learning site for older adults seeking social and/or educational involvement.

Seniors organizations or centres may enable an individual to help others, to advance a personal interest, to acquire new skills, or to interact with others who have similar interests (McPherson, 1990). Participants affiliated with these institutions can play a leadership role, spend their free time in a purposeful way, or improve their sense of identity (Novak, 1988). For some senior men and women who are searching for a full- or part-time job, membership in seniors organizations may serve as a link to future employment. Many elderly women, for example, enrol in or join a learning activity at a seniors centre to gain employment or because societal constraints necessitate them to find substitutes for paid employment (Reskin & Roos, 1990). For example, it may be more difficult for an elderly woman to find employment outside her seniors' circle (e.g., at a department store) because of her age.

From a societal perspective, seniors organizations encourage social integration and assimilation (ethnic associations), promote conflict and change (political groups), and provide social services (hospital volunteer groups) (McPherson, 1990). Though there seems to have been a steady growth in the number of seniors centres built in local communities in the last decade, the majority of older adults are not involved (McPherson, 1990). For example, according to the Canadian Association on Gerontology (1987), the 1985 General Social Survey found

“that for adults 55 years of age and over, only 20% of the women and 15% of the men had attended a senior centre or a club in the one-month period prior to the survey” (cited in McPherson, 1990, p. 439). The survey did not include multi-age community centres that have seniors activities. Participation rates were found to increase slightly from 55 to 75 years of age. McPherson (1990) argues that seniors would participate in different learning activities or work more often if given the chance.

The growth in the number of age-based organizations for older adults may be due to better health among recent cohorts of seniors, better education, earlier retirement, greater economic security, more discretionary time and income, and a desire to maintain continuity in lifestyle (McPherson, 1990). Older adults associated with seniors organizations seem to experience a greater opportunity set, and have a need to compensate for role losses, a need to enhance life satisfaction, or a need to find a new social support system after retirement (McPherson, 1990).

Several researchers (Ferraro & Cobb, 1987; Jerrome, 1988; Krout, 1985; Ouellette, 1986) have studied patterns of involvement in seniors centres. They report that those who are “joiners” are more likely to be women, to be in good health, to live close to the centre or to have easy access to transportation, to have always been “joiners”, to be members of the lower to middle classes, to have less formal education, to have a strong identity with the neighbourhood or community, and not to experience fear of crime when leaving the home. In addition, they found that non-users report a lack of awareness of a centre or its programs, being too busy, or having no interest in an “old folks” club. McPherson (1990) points out that older

individuals who do not participate are those who could benefit the most from a centre, since they are usually lonely and isolated. Furthermore, the peak of involvement in seniors organizations is likely to occur within 10 years before or after retirement, although this peak varies by type of organization. These findings may suggest that patterns of successful involvement in those who are "joiners" or "non-joiners", in either leisure, educational, or any other post-retirement activities, depend on seniors' predetermined historical or social context of events, or timing.

In general, participation in any educational learning activity can give seniors a sense of purpose in life (Bond, 1982). Exercise, recreation, and other educational programs found in seniors centres can lead to increased life-satisfaction for seniors, and so can community service work (Novak, 1988). There are many organizations, service clubs, cultural, or church-affiliated groups that provide organized adult learning activities for seniors which serve a variety of expressive, instructional, and/or instrumental purposes for society and for the individual. Pearce (1991) indicates that older adults often prefer more expressive forms of learning (e.g., learning for meaning and usually non-vocational purposes in a non-formal learning context such as in recreational groups or voluntary organizations) and that they may have longstanding inhibitions from their own schooling experiences.

Most organized adult learning contexts in seniors organizations are informal. Jarvis (1985) describes informal learning as participating in activities for the purpose of interest or leisure, such as quilting. On the other hand, the author refers to formal learning as taking courses from a university or college and earning credits towards a degree or a diploma. Not many older adults seem to want to participate in formal

learning contexts (Carlton & Soulsby, 1999). Furthermore, it seems that for some older adults, formal learning contexts may evoke fear, performance anxiety, and expectations of passivity (Cross, 1981).

Conclusion

We are witnessing some rapidly changing demographics today, most of which are due to the aging of our population. In an aging population, at least in our society, we can expect an increase in the number of older adults (e.g., the baby boom generation) retiring from the workforce (McPherson, 1990).

Our life expectancy has also been increasing over the decades, meaning that most of us may look forward to an earlier and longer retirement in the future (Novak, 1988). This longer lifespan means that many "baby boomer" retirees (perhaps as young as 50) will have plenty of leisure time on their hands. For many adults, this will be a time in the life cycle when learning needs can be fulfilled and enjoyed.

How these older adults perceive and interpret their new environment and their current needs, and how they experience them, will determine whether they have positive or negative perceptions of participation in adult education; a notion at the centre of Rubenson's (1977) model. Equally important will be the effect of negative and/or positive past experiences or responses to both psychological and environmental factors on participation. These factors may include, for example, coping with aging, change, and having to make decisions. This belief that participatory behaviour in a learning activity is the result of one's own past experiences and decisions is emphasized in Cross' (1981) model.

Seniors organizations have increased their emphasis on activities of an

educational nature. They have not only become significant for their role as providers of older adult educational programs, but as a place for helping seniors develop social relationships, overcome ageist stereotypes, and build confidence in their ability to be creative and learn new skills (National Advisory Council on Aging, 1999). Cross (1981), Rubenson (1977), and Darkenwald and Merriam (1982) consider these factors as important determinants of participation in adult learning activities. In fact, seniors centres have become “the ideal public sites for adult education and deserve greater public recognition and financial support” (National Advisory Council on Aging, 1999, p. 66).

Finally, it is important to examine the impact that SES variables have on participation and literacy skills of seniors. Darkenwald and Merriam (1982) stress the importance of SES variables on participation indicating that age, gender, education, occupation, and income status are powerful determinants of participatory behaviour.

The next chapter presents the methodology that was used for this study.

CHAPTER 3

The Methodology

Introduction

The previous chapter formed the foundation upon which future work must be built. It was aimed at obtaining a detailed knowledge of the topic being studied and insight to recognize problems in the selected area. This chapter begins with a description of the population and sample. What follows is a detailed description of the test instruments, their psychometric properties, and the procedures that were selected to collect the data.

To reiterate, there are three research questions of interest to this study. First, which of five socio-economic status variables (age, income, gender, employment status, education) as measured by the Deterrents to Participation Scale-General (DPS-G) are the best predictors of deterrents to participation in adult learning activities by seniors age 60 and over? This question implies that socio-economic status is the predictor variable and participation the criterion variable. Second, which of six deterrents to participation (lack of confidence, lack of course relevance, time constraints, low personal priority, cost, and personal problems) as measured by the Deterrents to Participation Scale-General (DPS-G) are the best predictors of participation in adult learning activities by seniors age 60 and over? This question implies that the deterrents to participation factors are the predictor variables and participation the criterion. Finally, is participation (as measured by the Participation Survey) in adult learning activities by seniors age 60 and over a predictor of seniors' literacy skills (as measured by the Tests of Applied Literacy Skills; TALS Document

domain)? This research question implies that participation is the predictor variable and document literacy level the criterion. It must be emphasized again that for this research question, literacy level is the variable that is measured under each condition of the predictor variable participation.

For ease of interpretation, and to put the study into perspective, Table 1.0 helps to distinguish the predictor variables from the criterion variables in relation to the three research questions. The final section presents the study's analytic techniques.

Table 1.0

Predictor and Criterion Variables for the Three Research Questions

Research Questions	Predictor Variables	Criterion Variables
1	SES	Deterrent Factors
2	Deterrent Factors	Participation
3	Participation	Document Literacy Skills

The Population

In most circumstances, social scientists are interested in generalizing to specific groups. In a research study, the group that is generalized to is often called the population. This is the group that researchers wish to sample from because this is the group they are interested in generalizing to. On the other hand, researchers often have difficulty developing a reasonable sampling plan and an accurate listing

of the population because it is simply not feasible to sample a large-scale area. Hence, two terms are generally used to describe populations of interest. The first is referred to as the theoretical population, the second is called the accessible population. In this example, it is possible for the researcher to access only a portion of the population with a reasonable amount of time and money.

The Accessible Population

The accessible population extended 600 kilometers across northwestern Ontario. The region is surrounded by lakes, dozens of parks, and over five hundred hunting and fishing resorts. Many retirement communities border on Minnesota towns and along the Lake Superior route. The region has an estimated population base of 158,000 people (Statistics Canada, 1991). According to urban size and type of community, approximately 8% of the population base or 12,640 older adults age 60 and over live in the region.

The region's primary industries consist of forestry, manufacturing, construction and tourism. The average earning is \$27,649 and the average family income is estimated at \$58,731. There is one University, two colleges, and over one hundred public and separate elementary\secondary schools. Several seniors organizations operate in the region offering organized adult learning activities.

Accordingly, approximately 8% of seniors over the age of 60 live in a collective household such as hospitals, special care centres, or boarding homes. Approximately 71% live in a private household as a couple, 14% live alone, and others live with a relative or an unrelated person (Elliot, 1996). Seventy-five percent (75%) of seniors rate themselves in very good health (Elliot, 1996).

The most recent regional demographic information indicate that employment for males in the past has been in sales and service, trades, transport or related occupations; for females it has been clerical in nature (Statistics Canada, 1991). There are more older females over the age of 65 than males and various ethnic backgrounds are represented including Aboriginal, German, Polish, Greek, and Italian (Statistics Canada, 1991). As for educational attainment, it is estimated that 34.8% have attained a grade 9-13; 25.6% are at the post secondary level (Statistics Canada, 1991). Sources of income stem from retirement pensions, other forms of securities, or full- or part-time employment, with family incomes ranging from \$30,000 to \$50,000 (Statistics Canada, 1991).

There were 183 healthy Canadian English speaking older male and female adults over the age of 60 in the actual sample to be studied. These research subjects were drawn from five randomly selected northwestern Ontario communities. Several ethnic backgrounds were represented.

The Sampling Procedure

Cost, geographical size and location, and other practical limitations such as transportation, and budget sometimes enter into the decision about sampling procedures and desired sample size. That is, there are often circumstances where it is not feasible, practical or theoretically sensible to do random sampling (Trochim, 2002). According to Sudman (1976), nonprobability sampling methods are used to avoid incurring extensive costs or lengths of time and where the goal of the study is to gain insight into behaviours that we know little about. For example, it is particularly well suited for exploratory research when the researcher is interested in getting an

inexpensive approximation of truth (Sudman, 1976). Among the few nonprobability methods available in educational research, convenience sampling was chosen for this study. It is viewed as suggestive rather than generalizable and as the name implies, the units are selected on the basis of availability rather than from the entire population.

At the time the general demographics were collected for this study, Statistics Canada (1991) estimated that there were 12,640 seniors age 60 and over living in the area; 75% or 9,480 were categorized as healthy. The larger the sample, the more likely are means and standard deviations representative of the population mean and standard deviation (Anastasi, 1976). A 2% sample of 9,480 healthy older adults, or 190 respondents was the desired sample. However, it was estimated that studying seniors would be difficult and that the nonresponse rate would be high. That is, some would not participate, some were expected to drop out over the course of the study, while others were expected not be contacted or recruited. As a result, it was necessary to double the target sample to 380.

The actual response rate was 49% or 183 respondents; close to the 2% desired sample. Research subjects were obtained through the use of recruitment methods such as advertisements in local newspapers (Appendix A). To ensure the variability of participants and non/participants, recruitment was made from two groups; seniors who were currently participating in an adult learning activity and those who were not. To test the factors that were expected to affect non-participation, a survey questionnaire was designed to determine participation (Appendix B). To ensure variability in the SES dimensions, participants were

solicited from various adult learning programs (community college/university), retirement associations (retired teachers/paper mill workers), church groups, volunteer centres, and senior citizens organizations (New Horizons, Homemakers Services, Senior Citizens Councils).

The Instrumentation

Deterrents to participation and literacy skills were examined using two instruments of measurement: (1) The Deterrents to Participation Scale-General (Appendix C; DPS-G; Darkenwald & Valentine, 1985); and, (2) The Tests of Applied Literacy Skills, document literacy domain Form B (Simon & Schuster, 1990).

The Deterrents to Participation Scale-General (DPS-G) was chosen because of: (a) Scanlan and Darkenwald's (1984) and Darkenwald and Valentine's (1985) extensive research on adult learning and participation, and; (b) the DPS-G was based upon the models of Cross (1981), Darkenwald and Merriam (1982), Miller (1967), and Rubenson (1977) (Darkenwald & Valentine, 1985). Hence, Darkenwald and Valentine (1985) created the DPS-G incorporating the construct of deterrents into the theories of participation in adult education. The authors found that the best predictors of participation in organized learning activities by adults were lack of confidence, lack of course relevance, time constraints, cost, low personal priority, and personal problems. Interestingly, Darkenwald and Valentine's (1985) research emphasized "what causes learners to participate, not what deters them" (Martindale & Drake, 1989, p. 63).

The next two sections provide a better description of the instruments used in this investigation, and their psychometric properties.

The Deterrents to Participation Scale-General

According to Darkenwald and Valentine (1985), the DPS-G is used primarily to identify variables that deter adults from participating in an organized adult learning activity. The scale, or deterrent variables, are scored using a five point 34 Likert-type scale which can be calculated by their item means. Respondents are asked to read a list of 34 reasons to not participate in an adult learning activity and to rate the importance of each deterrent item in their decision not to participate. The reasons represent six subscales of deterrents to participation. For example, 1=Not Important, 2=Slightly Important, 3=Somewhat Important, 4=Quite Important, and 5=Very Important. Only one response to each reason can be circled. The greater the score, the more important the reason for not participating.

The six deterrent variables measured are described as: (1) Lack of Confidence (reflects feelings of low academic self-esteem); (2) Lack of Course Relevance (perceived lack of appropriateness or fit between available learning opportunities and one's interests); (3) Time Constraints (suggests 'lack of time' to engage in the learning opportunities); (4) Low Personal Priority (lack of motivation or interest with respect to engaging in adult education); (5) Cost (no interpretation needed), and; (6) Personal Problems (reflects situational problems related to child care, family, and health).

Overall scale reliabilities (alpha) for the six deterrent variables are .87, .83, .72, .64, .75, and .40 respectively. Other studies (Beder, 1990; Beder & Valentine, 1990; Hayes, 1988; Martindale & Drake, 1989; Scanlan, 1986; Valentine & Darkenwald, 1990) have reported the instrument's high content validity and construct

validity as well as its applicability to different populations.

In addition to the six deterrent variables, socio-demographic characteristics are drawn from respondents to provide a correlation matrix of the relationship between deterrents and socio-demographic variables: gender, age, highest educational credential, total family income, and employment status. These are scored according to an assigned value (e.g., Total Family Income: 1-4, 4 = highest category). The authors report high correlations (expected) between the deterrents to participation and socio-demographic variables which provide support for the construct validity of the DPS-G.

The Tests of Applied Literacy Skills

The Tests of Applied Literacy Skills (TALS) are standardized tests based on national testing. They are the most recent efforts to develop measures of an adult's facility in using printed and written materials in daily activities (ETS; Kirsch, Jungeblut, & Campbell, 1991). Literacy skills used in daily activities are defined as, "the information processing skills necessary to use the printed materials commonly encountered at work, at home and in the community" (Statistics Canada, 1990, p. 92). The TALS are refinements of the instruments used in large-scale assessments such as the International Adult Literacy Survey (IALS; OECD, 1994). Unlike the IALS, however, the TALS can be used with groups of 25 or fewer. The tests were designed to estimate the proficiency levels of individuals in each of the same three literacy domains (document, prose, and quantitative) as in the IALS. For this study, the TALS Form B was reprinted by permission of Educational Testing Service (ETS), the copyright owner (Appendix D).

The TALS technical manual (ETS; Kirsch, Jungeblut, & Campbell, 1991) reports that the three components have internal consistency reliabilities varying from .88 (quantitative literacy) to .92 (prose & document literacy). Each component requires 40 minutes to administer but only the document component will be used in this study. The document literacy component assesses how effective adult learners can locate and use information on real-life materials such as newspaper articles, bus schedules, maps and charts. The scale contains a total of 26 tasks (questions) relating to skills needed to process information found in documents. Three types of tasks are used in the document component or scale: locating information in documents, cycling through information in documents, and integrating information in documents. Tasks are placed along a scale by their RP80 value, that is, the point where an individual has an 80% probability of success. Scores on the scale can range from 0 to 500. Tasks at higher levels on the scale, such as 400 as compared to 200, reflect higher levels of difficulty. Scores and their estimated level of difficulty for selected document tasks are: 150-200 (level 1), 250 (level 2), 300 (level 3), 350+ (level 4). Questions are marked either as correct (1) or incorrect (2) or no response (0). A score of 2 and/or 0 is considered incorrect when arriving at raw scores. Once raw scores have been calculated, they are converted to proficiency scores by the use of a standardized conversion table provided by the test manufacturer. Proficiency scores provide an estimate of the individual's demonstrated skill within the document literacy domain.

The Data Collection

Data Collection Procedures

Appropriate testing sites such as meeting rooms in community centres, seniors organizations, volunteer centres and retirement homes, were visited and chosen by the researcher. Upon arrival, research subjects were greeted by the researcher who remained at the testing site throughout the administration. There were no other individuals trained or qualified to administer the tests. That is, the researcher was the only person to administer the test for all sessions.

Throughout the testing period (spring, summer, and fall), the sizes of the groups being tested varied. Sometimes, the investigator had recruited groups ranging from 10 to 25. At other times the groups were smaller, sometimes only two or three.

Approximately one third of the research subjects ($n = 61$) were tested during the months of June and July; a time, it seems, when most seniors' level of activity increases substantially. For example, the researcher had several leisurely conversations with seniors expressing how busy they were with gardening activities, traveling and vacationing plans, or with children and grandchildren vacationing with them. Hence, considering the two month recruitment period, it was much more difficult to recruit seniors during the summer than it was during spring; April and May ($n = 26$).

The highest response rate ($n = 96$) was observed in September and part of October. It seems that seniors return to their regular indoor activities, or tend to organizational and volunteer commitments, hence, an easier period to recruit

seniors.

Administration of Testing Instruments

Groups of 25 or fewer were scheduled to meet the researcher at an appropriate testing site. The buildings were wheel chair accessible, posing little difficulty for the few respondents with special needs. As for transportation, most respondents drove their own vehicles, took the public transit if one was available, or walked to the testing site. Administration began in early spring and the researcher continued to accept research subjects until late fall. On several occasions, testing sessions had to be rescheduled or cancelled because of inclement weather, or because of a lack of research subjects. Sessions were scheduled during the day with higher rates of participation occurring during early morning or late afternoons. Participation rates in the study increased when testing sessions were held immediately preceding a presentation made by the researcher to seniors organizations, volunteer centres, or church groups. Under most testing conditions, meeting rooms were well lighted, climatically controlled and had an adjoining kitchen or serving counter. Washrooms were easily accessible. For accommodation purposes, and to meet the required number of respondents in the desired sample, special testing sessions sometimes had to be arranged. For example, some testing sessions had to take place at the respondent's home, a restaurant, coffee shop, or at the local library.

Before administering the instruments, the introduction and administration script was followed. Sufficient test booklets, pencils, and a Quick Reference Guide were available and used. All research subjects completed the three tests within the

allocated time.

Before beginning, participants were read a letter of introduction (Appendix E) and a consent to participate form (Appendix F) which they were required to sign. Copies of these forms were given to all the research subjects. They were informed that no physical or psychological risks were involved, and that they could withdraw from the study at any time without prejudice. In addition to explaining my research objectives, they were assured that personal identification and item responses would be kept confidential. Confidentiality assurance was maintained by deleting the research subjects' names from the questionnaires which had previously been coded. Research subjects were informed that the data, while in the researcher's possession, would be kept in a secure office stored in a locked cabinet. They were told that the data would be kept for a period of five years after which it would be destroyed and burned by the researcher. Upon completion, the survey questionnaire and the two tests were collected and safely stored by the researcher for future analysis.

Research subjects were asked to complete the two questionnaires and the Participation Survey in the English language. The first was on deterrents to participation in an organized adult learning, the second on their document literacy skills, the last on the frequency of participation in an organized adult learning activity. They spoke English very well and had no difficulty understanding the questionnaires. As a result, the researcher did not have to spend much time explaining the tasks. There were no distractions during the test administrations and the length of each session ranged from 45 to 55 minutes. Breaks and refreshments were scheduled

between each test, however most research subjects chose to complete all three questionnaires in succession, and to socialize afterwards.

Analytic Techniques

This exploratory study was concerned with describing the effect between a criterion variable and one or more predictor variables. In this situation, regression methods, specifically the logistic and multiple regression models, were appropriate for multivariate statistical analysis (Hosmer & Lemeshow, 1989). These methods allowed the researcher to estimate the effect of one variable on another while controlling for the effect of others. Data were collected allowing the researcher to analyze the variance of scores on a measure of deterrents to participation and literacy skills. Variability of the degree to which every score in the distribution of scores differed from the mean score was analyzed using the Statistical Package for the Social Sciences (SPSS v.10.0).

To answer the question of which of five socio-economic status variables (age, income, gender, employment status, education) as measured by the Deterrents to Participation Scale-General (DPS-G) are the best predictors of deterrents to participation in adult learning activities by seniors age 60 and over, six separate multiple regressions were estimated, one for each of the deterrents as a criterion variable with the five SES variables as predictor variables. The analysis generated a matrix of correlations among all variables. SES variables were assessed by tabulating results from specific questions asked on the DPS-G. The researcher did not control for any of the SES variables before introducing the six deterrents in the regression model; they were introduced together in the regression analysis.

To answer the question of which of six deterrents to participation (lack of confidence, lack of course relevance, time constraints, low personal priority, cost, and personal problems) as measured by the Deterrents to Participation Scale-General (DPS-G) are the best predictors of participation in adult learning activities by seniors age 60 and over, logistic regression analysis was used. Logistic regression is appropriate for predicting participation/non-participation when the criterion variable is discrete (Wright, 1995). It is important to note that this analysis estimates the probability of a certain event occurring.

Because there was no hypothesis about the relative importance of all the predictor variables or six deterrents, the standard format of analysis was used. To illustrate logistic regression analysis with several predictors, I used those research subjects categorized as non-participants and those categorized as participants from scores obtained from the DPS-G. Predictors of non-participation include lack of confidence, cost, lack of course relevance, time constraints, low personal priority, and personal problems. Predictor variables best associated with non-participation were tested. This analysis helped determine whether an effect existed between non-participation and lack of confidence that is independent of the other five predictor variables. The analysis gave the present researcher a correlation matrix between all variables (criterion and predictor). Second, the overall model (the system of coefficients for all predictor variables) was tested using g (likelihood ratio statistic). This statistical procedure is analogous to using F to evaluate an overall model in linear regression (Wright, 1995). The degrees of freedom for the overall likelihood ratio test was six, the number of predictor variables in the model. Finally, Cronbach

alphas for each of the six deterrent subscales were reported. Cronbach alphas are reliability coefficients suitable for estimating internal test consistency involving one test administration (Wiersma, 1991).

To answer the question is participation (as measured by the Participation Survey) in adult learning activities by seniors age 60 and over a predictor of seniors' literacy skills (as measured by the Tests of Applied Literacy Skills; TALS Document domain), multinomial logistic regression (a technique extended to outcome variables with three or more categories) was appropriate for the analysis (Hosmer & Lemeshow, 1989). The statistical procedure was used to model the relationship between the outcome variable non-participation (coded 0) and participation (coded 1). Outcome variable data was obtained from the Participation Survey and ordinal data from the TALS document literacy scale (literacy level 1- 4). The same procedure was repeated to test for associations between the literacy levels obtained from the TALS proficiency scores and participation.

In this chapter, the accessible population and sampling procedures were discussed. It was indicated that three instruments of measure were used. First, the Deterrents to Participation Scale-General measured seniors' deterrents to participation in an organized adult learning activity. Second, the Tests of Applied Literacy Scale measured seniors' literacy skills in the document domain. Finally, the Participation Survey measured their behaviour as participant or non-participant of an organized adult learning activity. Data collection and methods of analysis were also presented. It was indicated that regression techniques were utilized, namely multiple, logistic, and multinomial. The next chapter presents the research findings.

CHAPTER 4

Presentation of Research Findings

This chapter presents the research findings and is organized into six sections:

(1) Descriptive Statistics; (2) Reliability Analysis; (3) Outliers, Multicollinearity, and Residual Analysis; (4) Presentation of Findings for Research Question 1; (5) Presentation of Findings for Research Question 2, and; (6) Presentation of Findings for Research Question 3.

Section one introduces the data with the use of descriptive statistics. The purpose of this section is to describe the important characteristics of the data set. Section two discusses the internal consistency of items in the DPS-G scale. The third section presents the diagnostics on outliers (isolated cases that are separated from the majority of cases by virtue of their unusually high or low scores), multicollinearity (redundant variables), and residuals (prediction errors). Section four presents the findings to the research question of which of five socio-economic status variables (age, income, gender, employment status, education) as measured by the Deterrents to Participation Scale-General (DPS-G) are the best predictors of deterrents to participation in adult learning activities by seniors age 60 and over? The fifth section presents the findings to the research question of which of six deterrents to participation (lack of confidence, lack of course relevance, time constraints, low personal priority, cost, and personal problems) as measured by the Deterrents to Participation Scale-General (DPS-G) are the best predictors of participation in adult learning activities by seniors age 60 and over? The sixth and final section presents the findings to the research question is participation (as

measured by the Participation Survey) in adult learning activities by seniors age 60 and over a predictor of seniors' literacy skills (as measured by the Tests of Applied Literacy Skills; TALS Document domain)?

Descriptive Statistics

Socio-Economic Status

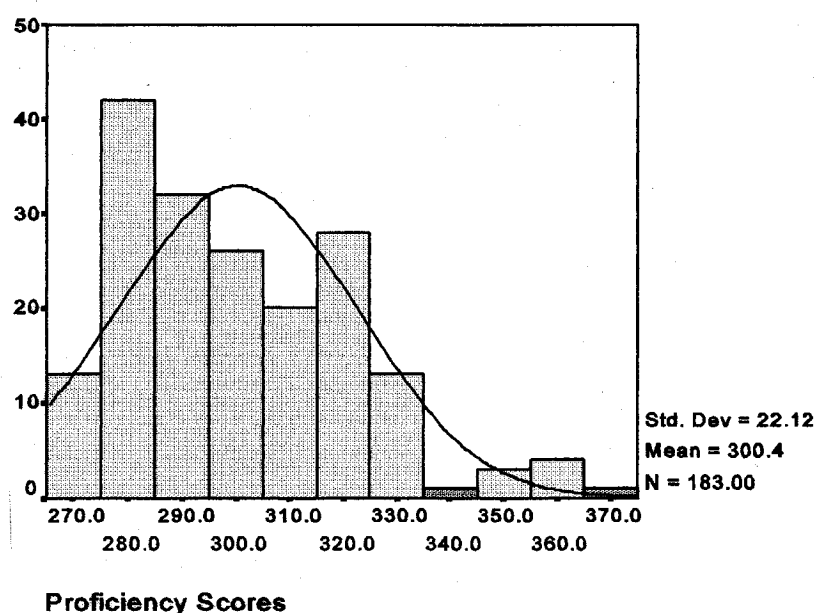
This researcher had access to a sample of 183 adults age 60 and over. There were 111 female respondents (61%) representing the majority, and 72 males (39%). With respect to the variable employment status, 6% were employed full-time, 17% were employed part-time, and 77% were out of the workforce. As for the variable education, most research subjects had attended some form of post secondary education. Only 2% reported having some elementary schooling, 3% had completed elementary school, 4% had attended high school, 18% had graduated from high school, 21% had attended college, 9% had a college diploma, 21% had attended university, 14% had a bachelor's degree, and 8% had a graduate degree. On the average, research subjects earned between \$30,000 to \$49,999. That is, on the DPS-G, most respondents ($M = 3.26$) rated their family income in category 3 (\$30,000 - \$49,999). There were no family incomes less than \$15,000 reported; 13% earned between \$15,000 and \$29,000, 54% between \$30,000 and \$44,999, 29% between \$45,000 and \$59,999, and 4% reported earnings of \$60,000 or more.

Literacy Skills

All research subjects completed the Tests of Applied Literacy Skills (TALS) document literacy Form B. Figure 1.0 represents subjects' proficiency scores on the TALS. On the average they scored at level 3 document literacy ($\underline{M} = 300.40$). Raw

scores were converted to proficiency scores, then to levels of literacy, by consulting the TALS conversion tables that were supplied by the test manufacturer. The median was 299, the mode was 280, and the standard deviation was 22.12. The minimum score reported was 266 (level 2) while the maximum was 371 (level 4). The results indicate that none of the research subjects scored between 0-225 (level 1); 7% scored between 226-275 (level 2), 81% between 276-325 (level 3), and 12% between 326-375 (level 4). No scores were obtained between 376-500 (level 5). A description of the TALS literacy levels is found in Appendix G.

Figure 1.0. Frequency distribution of TALS document literacy proficiency scores (N =183).



Participation

To help distinguish participants from non-participants, all 183 research subjects completed a Participation Survey. The survey asked them to report any

adult learning activity they had attended within the last two years, such as courses, workshops, or seminars. Those who reported attending one or more educational activity were categorized as "participants". Of the total sample, 25% (n=45) reported participating in one adult education course within the last two years, 37% (n=67) reported taking two courses, while 5% (n=10) had taken three or more courses. Those who had taken no courses, were categorized as "non-participants". For the purpose of data analysis, those categorized as "participants" (n=122) consisted of 67% of the total sample. Non-participants (n=61) consisted of 33% of the total sample.

In order to summarize the categorical variables, cross-tabulations on participation and non-participation versus the socio-economic status variables were estimated (see Table 1.1). There were no noticeable differences between the two groups on the five SES variables. This was not expected. Over the last 30 years, one of the major underlying assumptions that dominated research in both adult education and adult literacy was that non-participants are likely to be disadvantaged either in terms of educational level, class status, or other socio-economic indicators. For example, Cross (1981) found that the reasons people give for learning correspond consistently to the life situations of individuals, such as their income, employment, and need to further their education. From the information obtained from the reference groups, the present researcher did not have any reason to believe that seniors' SES variables differed from other populations.

The notion that seniors from lower SES are less likely to participate may help to explain the discrepancy between the characteristics of this sample and the

reported findings. On the other hand, the difficulties in researching seniors' lives cannot be underestimated. Though all means of recruiting a representative sample of the general older adult population were exhausted by this researcher, the question of how to develop more effective means of recruiting low SES seniors for studies on participation is perplexing and in need of further investigation.

The discrepancy between the SES data from this study and past research findings could be attributed to differences in age groups. Most studies on participation in the past have focused exclusively on the SES and participation of adults under the age of 60. The fluctuations between the SES data of seniors and the younger age groups may be explained by the greater leisure time available to seniors. Leisure time, income, and employment status are important factors to consider in the study of older age groups' participation because most seniors are out of the paid workforce. Perhaps, income and employment status are stronger SES predictors of participation among seniors than among other adult age groups because their income is more stable over time (e.g., fixed income derived from government pensions). On the other hand, the IALS (1994) found no evidence to indicate that income has an impact on non-participation. However, obtaining data on seniors' income in the past has been problematic (Nelson, 1994) in that they regard income as a sensitive and personal topic. They do not like to volunteer information about their sources of revenue. Furthermore, higher rates of non-response to the income question contained in the IALS has been reported (Statistics Canada, 1994). Hence, seniors' response to the income question in this study may be inaccurate.

In regards to gender, the findings of this study tend to agree with other

findings (McGivney, 1996) in that more elderly women than elderly men return to education. However, it is important to note that we cannot depend on seniors' education as an indicator of non-participation since education and literacy are not synonymous (IALS, 1997). That is, literacy skills can also be acquired by other informal types of delivery such as from book clubs, volunteering, and the learning that is acquired by watching television.

Table 1.1

Cross-Tabulation Summary of Socio-Economic Status Variables by Participation and Non-Participation Group

	Groups	
	Participation (n=122)	Non-Participation (n=61)
Gender (%)		
male	37	44
female	63	56
Mean Age	71.50	70.38
Education (%)		
some college	74	73
Mean Total Family Income	3.26 (\$30,000 - \$44,999)	3.23 (\$30,000 - \$44,999)
Employment (%)		
not employed	74	85
employed part-time	22	7
employed full-time	4	8

Finally, this researcher recognizes that there are more promising SES factors that should be considered in future studies on the participation of seniors in adult learning and that need to be investigated. These include marital status, labour force status (including retirement status), type of income, number of dependent children, age clusters, minorities, and ethnicity.

In addition to the SES variables, group means were compared between participants' and non-participants' document literacy proficiency scores and all six DPS-G deterrents. No noticeable differences were found among group means. Interestingly, both groups had a tendency to rate lack of course relevance and time constraints higher than any other deterrents. Tables 1.2 and 1.3 summarize the results of these findings.

Table 1.2

Summary of Mean Scores of Deterrents to Participation by Participation and Non-Participation Group

Group	Deterrents to Participation Variables					
	Lack of Confidence	Lack of Course Relevance	Time Constraints	Low Priority	Cost	Personal Problems
non-participation (n = 61)	1.56	1.79	1.76	1.38	1.46	1.20
participation (n = 122)	1.16	1.80	1.78	1.44	1.40	1.17

Table 1.3

Summary of Standard Deviations and Mean Document Literacy Proficiency Scores by Participation and Non-Participation Group

Group	<i>M</i>	<i>SD</i>
non-participation (n=61)	300.13	19.13
participation (n=122)	300.48	23.55

While the low item means on the DPS-G found in this study are indicative of the instrument's low external validity (see Table 1.4), results such as these are not unusual. In the past, similar findings have been reported (Darkenwald & Valentine, 1985, 1990). That is, on a five-point rating scale, the importance ratings have been clustered at the low end ranging between "not important" and "slightly important". According to Darkenwald and Valentine (1985), this pattern of low item means also characterized the original DPS as well as similar instruments designed to identify motivational orientations. The authors emphasize that "the decision not to participate in organized adult education is typically due to the combined effects of multiple deterrents rather than just one or two in isolation" (1991, p. 185). Undeniably, the DPS-G needs further refinement to include items that are more relevant to seniors' life situations. Some new deterrent factors that might be considered in future investigations include previous educational experiences, leisure activities, formal and informal modes of learning (discussed more explicitly in a later section), social participation, familial and social isolation, dependency on social service providers, politics, social support networks, inflation, and factors due to aging such as visual acuity, motor skills, mobility, and memory loss.

Reliability Analysis

As a measure of internal consistency, Cronbach's alpha is the most common form of reliability coefficient (Miller, 1995). In general, .70 or higher is the accepted cut-off to retain an item, or question, in a scale. Some researchers, however, use .75 or .80 (Cortina, 1993). That .70 is as low as one should go is reflected in the fact that when alpha is .70, the standard error of measurement will be over half (0.55) a standard deviation (Miller, 1995). Reliability estimates (α) obtained from the six DPS-G deterrent variables are summarized in Table 1.4. The coefficients were low ranging from .48 to .74.

Table 1.4

Reliability Analysis Summary for the Six Deterrents to Participation (DPS-G)

Item Statistics	Lack of Confidence	Lack of Course Relevance	Time Constraints	Low Personal Priority	Cost	Personal Problems
Item Mean	1.21	1.83	1.93	1.60	1.56	1.27
Minimum	1.15	1.57	1.75	1.34	1.46	1.17
Maximum	1.25	2.39	2.20	1.89	1.70	1.40
Variance	.0012	.0731	.0273	.0481	.0153	.0070
Mean Inter-item Correlation	.2695	.2289	.2652	.1926	.5501	.2728
Cronbach's Alpha	.7250	.6887	.5487	.4788	.7418	.5713
Standardized Item Alpha	.7470	.7036	.6435	.5439	.7858	.6523
Valid Cases	183	183	183	183	183	183

Summary

This section presented the descriptive statistics for the present study. There were 183 male and female research subjects ranging from 60 to 88 years of age. The majority were elderly women with moderately high incomes and educational attainment. A high number of respondents stated that they were not employed. This suggests that many of them were retired; this is an interpretation of the researcher. No major differences were noted between those characterized as participants and non-participants. In addition, the DPS-G showed low reliability estimates suggesting that the instrument needs to be revised taking into consideration other factors such as individual characteristics related to seniors' life situations, and/or cohort differences. In other words, the DPS-G did not permit the author to measure particular dimensions of deterrents to participation of seniors and/or their socio-economic status, making the results of research question 1 and 2 questionable.

Outliers, Multicollinearity, and Residual Analysis

Outliers are points which lie far from the main distributions or the main trends of one or more variables (Tabachnick & Fidell, 1996). They can be detected by plotting variables against one another, or by using FREQUENCIES in SPSS to examine the distributions of key variables. In serious cases, outliers can bias the results by "pulling" or "pushing" the regression line in a particular direction, thereby leading to biased regression coefficients. Sometimes, just removing a single case can yield different results.

To check for outliers, several observations were removed from the data set by setting the value of one variable to "missing". The regressions were repeated to

see if the same qualitative results were obtained. The same general results were obtained indicating that the outliers were not distorting the results. Hence, removal of outliers did not greatly affect them.

According to Tabachnick and Fidell (1996), multicollinearity refers to the situation where one or more of the regressors can be predicted almost exactly from the remainder of the set. The authors indicate that to assess the degree of multicollinearity, a measure of tolerance is estimated. If tolerance is low (below 0.1) for any regressor variable, it should be regarded as a problem. Collinearity statistics indicated that all tolerance values were well above the 0.1 value, ranging from .704 to .950, suggesting the absence of multicollinearity. As a precaution, the results were verified using a principal components analysis on the regressor variables. Tabachnick and Fidell (1996) indicate that if many of the "eigenvalues" produced from this procedure are below 1.0, the variable set is showing serious multicollinearity. For each multiple regression, only one eigenvalue (.371) was found below the 1.0 value. This confirmed that multicollinearity was not a serious problem.

The final step in assessing the regression relationship is analysis of the residuals. According to Tabachnick and Fidell (1996), residuals are the difference between the actual Y values and those predicted by the variate. The authors argue that the larger the residual value for a given observation, the larger the difference between the observed and predicted value of Y and the greater the error in prediction providing clues as to the pattern of the data. This study analyzed residuals by plotting them graphically. Casewise diagnostics concluded that none of the cases had serious errors of prediction. For example, for any of the regressions, no case

over-predicted by more than 2.30 and none under-predicted. The analysis of error of prediction for any of the models were non-significant. The next section will present the findings to the three research questions.

Presentation of Findings for Research Question 1

This section attempts to answer which of five socio-economic status variables (age, income, gender, employment status, education) as measured by the Deterrents to Participation Scale-General (DPS-G) are the best predictors of deterrents to participation in adult learning activities by seniors age 60 and over? Six separate multiple regression analysis were done, one for each of the deterrents as a criterion variable with the five SES variables as predictor variables. Table 1.5 summarizes all correlations among variables in the study, criterion and predictor. The results indicate that there were no correlations among any of the criterion and predictor variables.

Table 1.5

Pearson Product-Moment Correlation Coefficients of Deterrents to Participation and Socio-Economic Status Variables (N = 183)

SES Variables	Deterrents to Participation					
	Lack of Confidence	Lack of Course Relevance	Time Constraints	Low Personal Priority	Cost	Personal Problems
Gender	.0640	-.0259	-.0654	.0872	.0562	-.0949
Age	.0710	.0827	-.0510	-.0383	-.1046	-.0113
Education	-.0778	.0100	-.0343	.0635	-.0041	.0133
Income	-.0728	.0646	.0152	.1233	.0580	.0542
Employment	.1107	.1470	-.0483	-.1622	.0048	-.0076

Lack of Confidence

Table 1.6 shows the estimated model for the variable lack of confidence. The table indicates the unstandardized (B) and standardized beta (β) coefficients, for the standard multiple regression analysis performed between lack of confidence as the criterion variable and gender, age, education, income, and employment status as the predictor variables. R for the regression was not significant, $F(5, 177) = 2.26$, *ns*. This means that the model with this set of predictor variables, failed to significantly predict lack of confidence as a deterrent to participation.

Table 1.6

Standard Multiple Regression Analysis for Variables Predicting Lack of Confidence
($N = 183$)

Variable	B	$SE\ B$	β
Gender	2.786E-02	.033	.064
Age	1.380E-03	.002	.047
Education	-5.462E-03	.010	-.049
Income	-1.035E-02	.025	-.037
Employ	3.5567E-02	.030	.093

Lack of Course Relevance

Table 1.7 shows the estimated model for the variable lack of course relevance. The table indicates the unstandardized (B) and standardized beta (β) coefficients, for the standard multiple regression analysis performed between lack of course relevance as the criterion variable and gender, age, education, income,

and employment status as the predictor variables. R for the regression was not significant, $F(5, 177) = 2.26$, *ns*. Overall, this model shows absence of predictive ability and is therefore too weak to predict lack of course relevance as a deterrent to participation.

Table 1.7

Standard Multiple Regression Analysis for Variables Predicting Lack of Course Relevance (N = 183)

Variable	B	$SE\ B$	β
Gender	-8.376E-03	.082	-.008
Age	1.515E-03	.006	.021
Education	-8.486E-03	.024	-.031
Income	5.921E-02	.062	.085
Employ	.136	.076	.143

Time Constraints

Table 1.8 shows the estimated model for the variable time constraints. The table indicates the unstandardized (B) and standardized beta (β) coefficients, for the standard multiple regression analysis performed between time constraints as the criterion variable and gender, age, education, income, and employment status as the predictor variables. R for the regression was not significant, $F(5, 177) = 2.26$, *ns*. Overall, this model shows absence of predictive ability and is therefore too weak to predict time constraints as a deterrent to participation.

Table 1.8

Standard Multiple Regression Analysis for Variables Predicting Time Constraints (N = 183)

Variable	<u>B</u>	<u>SE B</u>	β
Gender	-8.871E-02	.094	-.073
Age	-5.498E-03	.007	-.067
Education	-2.443E-02	.028	-.078
Income	4.895E-02	.070	.062
Employ	-2.574E-02	.086	-.024

Low Personal Priority

Table 1.9 shows the estimated model for the variable low personal priority. The table indicates the unstandardized (*B*) and standardized beta (β) coefficients, for the standard multiple regression analysis performed between low personal priority as the criterion variable and gender, age, education, income, and employment status as the predictor variables. *R* for the regression was not significant, *F* (5, 177) = 2.26, *ns*. This means that this model with this set of predictor variables, failed to significantly predict low personal priority as a deterrent to participation.

Table 1.9

Standard Multiple Regression Analysis for Variables Predicting Low Personal Priority

(N = 183)

Variable	<i>B</i>	<i>SE B</i>	β
Gender	8.281E-02	.057	.109
Age	1.341E-03	.004	.026
Education	2.072E-03	.017	.011
Income	6.004E-02	.043	.123
Employ	-.109	.052	-.163

Personal Problems

Table 2.0 shows the estimated model for the variable personal problems. The table indicates the unstandardized (*B*) and standardized beta (β) coefficients, for the standard multiple regression analysis performed between personal problems as the criterion variable and gender, age, education, income, and employment status as the predictor variables. *R* for the regression was not significant, *F* (5, 177) = 2.26, *ns*. This means that this model with this set of predictor variables, failed to significantly predict personal problems as a deterrent to participation.

Table 2.0

Standard Multiple Regression Analysis for Variables Predicting Personal Problems

(N = 183)

Variable	<u>B</u>	<u>SE B</u>	β
Gender	-5.005E-02	.041	-.094
Age	-1.267E-03	.003	-.036
Education	-3.384E-03	.012	-.025
Income	1.865E-02	.031	.054
Employ	2.389E-03	.038	.005

Cost

Table 2.1 shows the estimated model for the variable cost. The table indicates the unstandardized (*B*) and standardized beta (β) coefficients, for the standard multiple regression analysis performed between cost as the criterion variable and gender, age,

Table 2.1

Standard Multiple Regression Analysis for Variables Predicting Cost (N = 183)

Variable	<u>B</u>	<u>SE B</u>	β
Gender	6.471E-02	.099	.050
Age	-1.169E-02	.007	-.134
Education	-2.456E-02	.029	-.073
Income	.100	.074	.120
Employ	6.609E-02	.091	.058

education, income, and employment status as the predictor variables. R for the regression was not significant, $F(5, 177) = 2.26$, *ns*. This means that this model with this set of predictor variables, failed to significantly predict cost as a deterrent to participation.

Summary

This section has presented the findings to the first research question. That is, which among the five SES variables predict each of the six deterrents to participation. A summary of the results is found in Table 2.2.

Overall, when all other predictor variables were held constant, a contrast was observed between the employment status variable ($t_{177} = 1.798$, $p < 0.05$) and lack of course relevance. A contrast was also observed between the employment status variable and low personal priority ($t_{177} = -2.074$, $p < 0.05$).

Though the above findings were small and insignificant, a larger sample taken from a less remote geographical area, such as from southern Ontario, may have produced different and practical findings. According to Diekhoff (1992, p. 135), practical significance is a "very small and unimportant difference that can be found to be statistically significant under certain circumstances". The author refers to these "certain circumstances" as sample size and data variability. In other words, the findings observed in a study of many cases may be more trustworthy or reliable (significant) than findings observed in a study of small cases.

Since the relationship between employment status and low personal priority is a negative one (minus sign), the negative coefficient means that when the predictor increases, the criterion variable decreases (Diekhoff, 1992). To clarify this

point, one must understand how the employment status question on the DPS-G questionnaire (see Appendix C) were scored and entered into the data set. Research subjects had only three answers to choose from in regards to employment status: (1) Full-Time; (2) Part-Time, and; (3) Not Employed. Since this was the order the data was coded in, it meant that the “least” employed the person was, the

Table 2.2

Summary of Multiple Regression Analysis (β) for Socio-Economic Status Variables Predicting Deterrents to Participation (N = 183)

SES Variables	Deterrents to Participation					
	Lack of Confidence	Lack of Course Relevance	Time Constraints	Low Personal Priority	Cost	Personal Problems
	β	β	β	β	β	β
Gender	.064	-.008	-.073	.109	.050	-.094
Age	.047	.021	-.067	.026	-.134	-.036
Education	-.049	-.031	-.078	.011	-.073	-.025
Income	-.037	.085	.062	.123	.120	.054
Employ	.093	.143	-.024	-.163	.058	.005

“higher” the score, the more fully employed the “lower” the score. In regards to the deterrent variables on the DPS-G scale, a “higher” score was assigned when the respondent acknowledged that a particular deterrent (in this case low priority) was more important. A negative relationship between the two variables (lower with higher) then meant that more fully employed participants (lower score on that SES

question) went with lower personal priority (higher score on the deterrent scale). The negative correlation between the employment status variable and the deterrent variable low personal priority indicates that the more occupied seniors are (when in the workforce), the more they consider participation as a low priority. Perhaps they had no time, or situations in which other activities take precedence over education may have been more important.

On the other hand, a positive correlation between the employment status variable and the deterrent lack of course relevance suggests that the less employed (eventually out of the workforce) seniors are, the more important lack of course relevance becomes as a deterrent to participation. That is, and as Scanlan (1986) argues, older adults that are out of the paid workforce often perceive participation in adult learning activities as being uninteresting, impractical, or too general.

Presentation of Findings for Research Question 2

This section will focus on the second research question: Which of six deterrents to participation (lack of confidence, lack of course relevance, time constraints, low personal priority, cost, and personal problems) as measured by the Deterrents to Participation Scale -General (DPS-G) are the best predictors of participation in adult learning activities by seniors age 60 and over? The purpose of this question is to estimate a regression model to determine which of the six deterrents influence participation. The statistical procedure chosen to answer this question is called binomial (or binary) logistic regression. According to Pampel (2000), binomial logistic regression is a form of regression which is used when the criterion variable is a dichotomy (yes, no) and the predictors are continuous

variables, categorical variables, or both. In this study, the criterion which measures participation is equal to 1 while non-participation 0. The final analysis was conducted using data gathered from the Deterrent to Participation Scale - General and the Participation Survey measures. The descriptive statistics for the DPS-G deterrent variables for this analysis were described in an earlier section of this chapter (see p. 87).

Since the focus of this research question was on prediction, a stepwise solution was chosen. At each step of this procedure, a variable already in the model is eliminated if doing so does not result in a significant loss of predictive power. For ease of interpretation, only step six of the binomial logistic regression results is presented in Table 2.3. The table summarizes the roles of the parameters in the models.

Table 2.3

Summary of Binomial Logistic Regression Testing for the Effect of Participation on the Deterrents to Participation Variables

Variables	B	S.E	Wald	df	Sig.	Exp(B)
Step 6						
Lack of Confidence	.893	.806	.238	1	.626	1.482
Lack of Course						
Relevance	.016	.306	.003	1	.958	1.016
Time Constraints	.065	.267	.060	1	.807	1.067
Low Personal						
Priority	.535	.453	1.397	1	.237	1.708
Cost	-.211	.266	.630	1	.427	.810
Personal Problems	-.378	.617	.376	1	.540	.685
Constant	.089	1.298	.005	1	.946	1.093

The results indicate that little additional predictive power was gained from any of the regression equations. Every stepwise test in the first set of output failed to reject a null hypothesis of no effect. The conclusion is that none of the six DPS-G deterrents have an impact on participation. The significance levels of the six predictor variables are well above the 95% confidence level ($p = < 0.05$), in all cases.

Presentation of Findings for Research Question 3

Is participation (as measured by the Participation Survey) in adult learning activities by seniors age 60 and over a predictor of seniors' literacy skills (as measured by the Tests of Applied Literacy Skills; TALS Document domain)? This final research question implies that participation is the predictor variable and document literacy level the criterion. Because there were more than two categorical criterion variables (literacy level 2-4), this question was answered using multinomial logistic regression. Note that the Tests of Applied Literacy Skills document proficiency scores were recoded as categorical data. That is, the scores were converted to level 2, 3, or 4. No respondent scored lower than level 1 or higher than 4, therefore level 1 and 5 were dropped from the model.

Multinomial logistic results are summarized in Table 2.4. The output, which represents participation as the predictor and literacy level as the response, suggests that no such relationship exists. The value or strength of this relationship is found under the column marked Sig. The conclusion is that participation is not a significant predictor of literacy level because the p-value of the likelihood ratio statistic for literacy levels is 0.63, well above the significance level of 0.05.

Table 2.4

Summary of Nominal Regression Testing for the Effect of Participation on Literacy Level

Likelihood Ratio Tests				
Effect	-2 Log Likelihood of Reduced Model	Chi-Square	df	Sig.
Intercept	13.116	1.205	1	.272
Levels	12.143	.233	1	.630

Summary of Research Findings

The research sample consisted of 183 older adults age 60 and over gathered from five northwestern Ontario communities. While there were more female respondents (n=111) than male respondents (n=72) in the sample, the youngest age level for both male and female respondents was 60, the oldest age level was 88. The socio-demographic data indicated that the majority of research subjects (77%) were either out of the workforce due to loss of employment, or had voluntary or involuntary retired. In addition, 23% reported working either on a full-time or part-time basis. The average annual family income reported on the questionnaire ranged from \$30,000 to \$44,999. A large number of research subjects (92%) had earned a high school diploma or higher; 8% had less than a high school education. Similar socio-demographic findings profiling older adults have been reported in the past (IALS; OECD, 1997).

Research subjects were categorized into two groups, participants and non-participants. The participant group consisted of 122 seniors while non-participants consisted of 61. In regards to socio-economic characteristics, non-significant group

differences were found. That is, both participants and non-participants were similar in regards to their age, income, gender, educational attainment, and employment status. As a result, the data differs from previous research findings on the participatory behaviour of older adults, in that non-participants are likely to be disadvantaged either in terms of educational level, employment status, or other socio-economic indicators (Ziegahn, 1992).

With reference to applied document literacy skills, no noticeable differences were found between participants and non-participants and their literacy scores; the mean score for either group was 300. Similarities among item means on the DPS-G were also observed. Of marked importance is that both participants and non-participants had a tendency to rate lack of course relevance and time constraints greater than any other of the six deterrents to participation. This suggests that seniors in this study had similar profiles only in regards to their document literacy skills and two deterrent variables, lack of course relevance and time constraints.

Multiple regression estimates demonstrated that none of the regression lines could be plotted or fitted against any of the six deterrents to participation as criterion variables on the five SES variables as predictors. However, when a stepwise regression solution was applied, one model contrasted with the others in their predictive ability. That is, when the socio-economic status variables were held constant, the effect of the variable employment status using the deterrents to participation lack of course relevance and low personal priority had a tendency to deliver the strongest explanatory power among all other predictor variables ($p < 0.05$). Finally, the regression analyses showed that none of the six deterrents to

participation had any impact on participation and that document literacy skills could not be predicted as a function of participation. The importance of these findings is discussed in the next chapter.

CHAPTER 5

Discussion

This last chapter begins by restating the purpose of the study. It is followed by a discussion of the key elements that focus on the SES variable *employment status*, and the deterrents to participation *lack of course relevance* and *low personal priority*. Seniors' document literacy skills are discussed, followed by an examination of some of the limitations which may have influenced the findings including the DPS-G validation. The discussion continues by indicating the study's contribution to scholarly knowledge and implications for practice. It concludes by proposing areas for further research.

An Overview of the Study

The purpose of this study is to investigate the effect of variables that may influence the decision of seniors age 60 and over not to participate in adult learning activities and literacy skills. It is based on the notion that non-participation is a result of complex responses to psychological, environmental, and socio-economic factors.

The study was guided by a conceptual framework of non-participation which included Rubenson's (1977) Expectancy-Valence model, Cross' (1981) Chain-of-Response model, and Darkenwald and Merriam's (1982) Psychosocial Interaction model. These models characterized deterrents of non-participation as situational, dispositional, informational, institutional, and psychosocial. Further direction was maintained by the results of the International Adult Literacy Survey (IALS; OECD, 1997). Finally, the uniqueness of this study was enhanced by using the Tests of Applied Literacy Scale.

Three research questions were of primary interest in this investigation and no hypotheses were proposed about its direction: (1) Which of five socio-economic status variables (age, income, gender, employment status, education) as measured by the Deterrents to Participation Scale-General (DPS-G) are the best predictors of deterrents to participation in adult learning activities by seniors age 60 and over?; (2) Which of six deterrents to participation (lack of confidence, lack of course relevance, time constraints, low personal priority, cost, and personal problems) as measured by the Deterrents to Participation Scale-General (DPS-G) are the best predictors of participation in adult learning activities by seniors age 60 and over?; and (3) Is participation (as measured by the Participation Survey) in adult learning activities by seniors age 60 and over a predictor of seniors' literacy skills (as measured by the Tests of Applied Literacy Skills; TALS Document domain)?

Three instruments of measurement were used for the collection of data. The Deterrents to Participation Scale-General measured seniors' reasons for not participating in organized learning. The Tests of Applied Literacy Skills measured applied literacy proficiency in a document skills domain. Seniors also completed a survey questionnaire for the purpose of identifying participants and non-participants. Data were analyzed using multivariate statistical procedures.

In the next section, the key elements of this exploratory study are interpreted and discussed.

Key Elements of the Study

The Employment Status Variable

The most important predictor of deterrents to participation in this study tends

to be the employment status variable. Care must be taken when interpreting the employment status variable. There are many problems associated with it, especially when it is used as an indicator of socio-economic status.

The position of an individual or group in relation to the kind, quality, or prestige of an occupation is commonly referred to as occupational status (Dictionary of Demographic and Reproductive Health Terminology, 1999). It must be emphasized that the connection between occupational status (e.g., accountant, manager, technician) and participation was not examined in this study. This does not mean, however, that the employment status variable is excluded from having occupational significance, role, or identity. For example, many seniors who are retired from the workforce are fulfilling important roles in society (e.g., volunteering) and should be recognized as having occupational status (National Advisory Council on Aging, 1999). Even if the DPS-G had measured seniors' occupational status, scales used to rank occupations have been known to be biased by gender, race, and culture (Nelson, 1994). The difficulty in interpreting the employment status variable, when applied to a population of seniors who are almost all retired from the labour force, has been noted in the past (Statistics Canada, 1998).

In regard to employment status, the DPS-G provided research subjects with only three responses to choose from: (1) Full-Time; (2) Part-Time; and (3) Not Employed. Since this was the order the data was coded in, it meant that the "least" employed the person was, the "higher" the score, and the more fully employed the "lower" the score. The results showed that almost 80% of seniors were inactive in the labour market. The researcher assumes that most seniors reported being "not

employed” because the structure of the DPS-G did not include a fourth response, that of being “retired”. Hence, the researcher’s interpretation is that many seniors may have perceived the “not employed” choice as the same as being out of the workforce due to retirement. This conclusion would support earlier findings (Statistics Canada, 2001) in that the majority of seniors are retired and only a small proportion still participate in the paid workforce.

The notion that employment status may have an impact on participation is supported by all three composite models of participation that were previously introduced. Cross’ (1981) Chain-of-Response model, for example, explained the significance of the influence of the employment status variable on participation as life events and transitions, such as exiting the workforce or retirement. In this case, the employment status variable (i.e., fully employed, partially employed, and perhaps retired) represents itself as an important event or transition in the lives of seniors and whether they participate in education or not. Cross (1981) also argued that individuals with positive attitudes established from past positive experiences and successes about education would likely participate in education in later life. This notion is also conveyed in Rubenson’s Expectancy-Valence model whereby the degree of attraction or value placed on adult education is contingent upon one’s previous successes in their environment, such as during and out of employment.

According to Darkenwald and Merriam’s (1982) Psychosocial Interaction model, employment status is one of the most important SES variables to influence participation in adult education. The authors indicate that the value and utility of participation is influenced by employment status since employment may stimulate

internal needs or desires related to self-expression or self-improvement. They also indicate that the *employment status* variable can exert pressure on participation, as do social roles. The notion is that the *employment status* variable acts as a form of social identity and that the usefulness, appropriateness, and enjoyability of engaging in adult education is perceived differently when this identity changes, such as in the case of retirement or being out of the workforce. While being in the workforce and career objectives may provide individuals reasons for participating in adult education, the Darkenwald and Merriam (1982) model points out that participation while out of the workforce may provide greater intrinsic value and usefulness as a means of achieving “personal” goals. A comparable notion is found in Rubenson’s (1977) model.

Understanding the impact of SES variables such as employment status on seniors’ participation is a challenging task. In order for us to fully understand the impact of these variables, perhaps we need a different perspective. In fact, Findsen (2001) suggests using “critical gerontology” and “political economy” as “tools” to investigate what deters seniors aged 60 and over from participation in adult learning. In his introductory notes, Findsen (2001, p. 1) argues that “the traditional conceptions of participation from within the field of adult education are insufficient to describe the inequitable nature of older adults’ participation in learning activities.” Using a gerontological perspective may help to modify and increase the validity of those instruments that currently attempt to measure deterrents to participation, in this case the DPS-G factor structure (more is said about the internal structure of the DPS-G later in this chapter).

Similar to Findsen (2001) are Campbell's (1984) beliefs. Campbell (1984) argues that the study of participation with older adults may be more beneficial to understand the employment status variable as a series of role transitions, rather than as a single event. That is, viewing employment as transitions may help us to understand participation. Campbell (1984) argues that "most adult decisions to seek educational renewal are clearly and directly related to significant changes in their lives" (p. 20). These role transitions occur when status is gained or lost such as by marriage, parenthood, retirement, or widowhood (George, 1980). Seniors can experience a role transition when they exit the workforce such as in the case of retirement. That is, when seniors leave the workforce, the role of "worker" is left behind and a new role, the "retiree", begins. Hence, employment status does not end with not being employed. Rather, it is placed on a continuum, a transition from exiting the workforce to the retirement phase.

For young adults, employment signals the beginning of new roles and responsibilities. For many seniors, retirement signals the end of these roles and responsibilities. When work-related or instrumental learning is strongly associated with work-related roles in later life, participation for non-work-related motives or reasons may become too demanding (e.g., time constraints). Moreover, if seniors have a history of participating in adult learning activities for work-related reasons only, they may need to develop other reasons or motives for learning in later life (Rubenson, 1977). In addition, post-retirement (in association with being out of the workforce) suggests that efforts, learning outcomes, and learning needs are not always perceived the same as they once were prior to retirement (or being in the

workforce). This is unfortunate because many older adult learners report having favourable attitudes towards participation in adult learning programs in at least one of the following areas: their enjoyment of life; their self-confidence; how they feel about themselves; satisfaction with other areas of life; and their ability to cope (IES; Institute for Employment Studies, 2000). On the other hand, if seniors perceive themselves negatively, such as "too old to learn", this negative self-image can lead to a loss of interest and motivation to participate, and to learned helplessness.

The next two sections expand on the implications of the *employment status* variable and its impact on *lack of course relevance* and *low personal priority*.

Employment Status and Lack of Course Relevance

The lack of course relevance was defined by Scanlan (1984) as questionable worth, relevance or quality of available educational opportunities associated with research subjects' perceptions of program inadequacies such as overall poor quality, or inappropriate level or methods. Cross (1981) grouped lack of course relevance as an institutional deterrent. According to Cross, institutional deterrents also consist of scheduling problems, location, transportation, practicality, enrolment red tape, and lack of information on programs.

The deterrents to participation in educational activities most frequently reported by adults (18-55) are lack of time and cost (Carp, Peterson, & Roelfs, 1974; Johnstone & Rivera, 1965). This means that a busy lifestyle, home and financial responsibilities, and other time-consuming obstacles are significant deterrents for adults under the age of 60. However, for seniors over the age of 60, the results of this study suggest that as employment status decreases (they are less employed

and eventually out of the workforce), seniors tend to consider lack of course relevance as a more important deterrent to participation.

Out of the eight items (or questions) on the DPS-G measuring the deterrent *lack of course relevance*, seniors rated item 32, "Because I didn't think the course would meet my needs", as one of the most important reasons in their decision not to participate in an adult learning activity ($M = 2.39$). Daniel, Templin, and Shearon (1977) support these findings, indicating that the three most frequently cited reasons by seniors for taking adult education courses are to learn more things of interest, to meet people who are interesting, and to be able to contribute to society. Others (IES, 2000) indicate that the most important reasons for older adults to continue learning after exiting the workforce are intellectual, such as remaining mentally active, the challenge of learning new things, and learning things that are interesting to them.

Employment Status and Low Personal Priority

According to Scanlan (1986), low personal priority is defined as the lack of motivation or interest in engaging in adult learning activities. Similarly, Cross (1981) classifies low personal priority as a dispositional deterrent, such as the lack of ability or interest. Dispositional deterrents have been found to be more prevalent among adults (under the age of 60) who do not participate in adult learning activities than those who do participate (Scanlan, 1986). For older adults (60 and over), a lack of interest in learning was one of the most common reasons not to learn (IES, 2000).

Out of the five items (or questions) measuring the deterrent *low personal priority* on the DPS-G, seniors rated item 20, "Because I'm not that interested in taking courses", as one of the most important reasons for not participating ($M =$

1.89). Recent studies on the effect of seniors' employment status (i.e., employed full-time and/or part-time, or not employed) on participation are useful in explaining the importance of the deterrent *low personal priority* to this study. For example, researchers have found that those in employment are more likely to be continuous learners while retirees are more likely to drop out of learning or be non-learners (IES, 2000), suggesting that unemployment (and perhaps retirement) can be a "trigger" out of learning. This study does not support these findings. In fact, the findings of this study tend to suggest that it is the reduction in work-related (or instrumental) learning that plays a major role in rates of later-life or post-retirement involvement in adult learning. That is, seniors who retire from the workforce are involved in adult education for different reasons. Furthermore, participation increases because their interests in formal adult learning are more commonly associated with leisure activities rather than with work. In a way, this is supportive of and consistent with utility theory. For example, many working individuals who make decisions to participate base them on their employer or work situation, and/or their ability to gain from the course completion. In contrast, those who are inactive in the workforce, such as retirees, value and utilize adult education for different reasons. Harris, Louis, and Associates (1975) support this assumption, indicating that seniors' primary reasons for taking courses are to make good use of their time and to be with others, but for younger adults, it is to acquire a good job. Essentially, for most seniors, past employment has been instrumental in the decision to participate in training and education and now their motives have changed.

The results of this study indicate that when the variable *employment status*

increased, meaning they were fully employed, the importance of the deterrent *low personal priority* also had a tendency to increase (resulting in low participation). The interpretation is that during employment, respondents preferred other activities besides taking courses or attending seminars and workshops that were work-related. It follows that as younger adults, they were too busy with job-related activities to make adult learning a priority, unless taking courses was a job requirement or contributed to the goal of getting employment. The implication may be that when older adults exit the workforce, learning and taking courses become, or are regarded as, leisure activities. That is, they now have time to participate in adult education. These notions are supported by Tuijnman and Emmanuel (2001) who found that the major reasons for the employed population not taking adult education and training activities were a lack of time and being too busy at work, and a lack of money. They indicate that almost half (46%) of the employed population in North America were unlikely to participate in adult education and training.

The next section provides a brief commentary on the results of seniors' scores on the document literacy skills testing.

Document Literacy Skills

Most seniors (81%) in this study scored at level 3 document literacy. That is, they showed no evidence of having difficulty in locating, cycling through, or integrating information found on tables, charts, forms, maps, or graphs. In fact, most of them were able to complete some of the most complex document literacy tasks attainable. In addition, no differences were found between seniors categorized as participants and/or non-participants and their document literacy scores. This was an

unexpected pattern. Usually, there is a steady but modest decline, particularly in document literacy levels shortly after age 60 (IALS; OECD, 1997).

Statistics Canada and Human Resources Development Canada (1996a) point out that "to rely solely on education as an indicator of those senior citizens needing literacy help will lead to relatively large errors" (p. 23). "What's important" they state, "is that the public focus on how seniors use and acquire information in their daily lives" (p. 23). This is an indication, perhaps, of the many methodological difficulties that are inherent in doing research with populations who, like seniors, have special characteristics (McPherson, 1990). The most notable is being able to obtain a representative sampling frame. Because there are usually not enough individuals age 60 and over who participate in research studies, samples for research on seniors are usually non-representative (Novak, 1988).

The findings of this study indicate that the connection between education, age, and applied document literacy skills is inconclusive. While education may be the most common path to applied document literacy skills, it is quite possible to acquire them by other means such as by trial and error (IALS; OECD, 1997). Hence, understanding the relationship between applied document literacy scores and educational attainment by seniors is a complex phenomenon.

Summary

In summary, this study has examined seniors' deterrents to participation in an organized adult learning activity and literacy skills. It found that the socio-economic variable *employment status* had, to some extent, the greatest predictive power on two deterrents to participation: *lack of course relevance* and *low personal priority*.

This may suggest that seniors who are inactive in the workforce may engage in organized learning for reasons other than instrumental or job-related. It follows that retired seniors or those who are not active in the workforce may not take courses to obtain a job, further a career, or be promoted. That is, participation is no longer associated with workplace learning. The results may also suggest that these deterrents are the product of courses that are too general, impractical, or meaningless to seniors' lives, and that they may be located too far away or scheduled at an inconvenient time. In addition, they may have been too lengthy, or seniors may have perceived the courses as too difficult to complete.

The present researcher had difficulty recruiting seniors with low SES and literacy skills. In fact, over 70% of all respondents reported having some college, 81% reported a total family income of more than \$30,000, and 81% scored at level 3 document literacy. Results like these are not unusual, and other studies report facing similar challenges in doing research with elderly people (Marshall, 1987a; McPherson, 1990; Health Canada, 1993). Denton and Pineo (1988) found that cohorts of elderly people with lower educational attainment that once seemed to represent the majority, were being replaced by cohorts of elderly people with higher levels of education. More recent census data (e.g., Statistics Canada, 1994, 2003) confirms this tendency.

Overall, the results of this study have shed some new light on our understanding of the participation rates by seniors in research studies, and the influence of the *employment status* variable on the deterrents to participation *lack of course relevance* and *low personal priority*.

Limitations

This study had certain design limitations. As a predictive or exploratory study using non-probability samples, the findings of this investigation cannot establish cause-and-effect or generalize to other populations. Causal relationships between two variables can only be established through a true experiment in which one variable is manipulated and a second variable is subsequently observed to vary (Asher, 1976). Hence, the purpose of this study was mapping out possible causal relationships between variables.

Some of the problems associated with collecting data from seniors are well documented. For example, Herzog and Rodgers (1988) and Marshall (1987a) indicate that special skills are required in researching seniors that are not normally needed for other age groups. According to the authors, it is especially important to establish rapport, since seniors may be skeptical of research, sometimes to the point of suspecting researchers of being some kind of government "spies". Perhaps the influence of the researcher's short-term rapport with seniors may have caused them to be uncomfortable with the testing sessions. Consequently, seniors may have been unwilling to respond or admit to the true state of their everyday situations including their economic or educational status. As a result, more time should have been taken with the research subjects to establish rapport.

A quantitative investigation does not delineate the process but rather the outcome or product of meaning-making (Merriam & Simpson, 1995). Without an understanding of how seniors make sense of their lives and how they interpret those experiences, it was impossible to compare the existing research data (which is

based primarily on the participatory behaviour of younger adults) with older age groups. In reference to the qualitative case study, Hamel (1993) points out that the social factors being studied should be "more apparent because the social experience with which these factors are concerned are actually created from meanings provided by the social actors themselves" (p. 30).

Thirty-six percent (36%) of Canadians over the age of 65 have between grade 1 and 8 as their highest level of formal education, 3% with no formal education; 28% earn less than \$15,000 (Statistics Canada, 1994). Seniors with no formal education and incomes less than \$15,000 were not represented in this study. This limits our understanding of the impact of income and education on participation or other socio-economic disadvantages of seniors.

Over 73% of the respondents from this study had high literacy skills. But this does not necessarily mean that all the respondents had high educational attainment. The IALS (1997) emphasized that one's literacy ability should not be perceived as the equivalent to one's educational background and that most Canadian seniors do not fit this pattern.

It is important to point out that the data collected from the TALS in this study measured similar data surveyed by the IALS. That is, the TALS was designed to measure literacy skills in much the same way as the IALS. Both the TALS and IALS provide measures of an individual's document, prose, and quantitative literacy skills which are not synonymous with educational attainment. Therefore, it is possible that seniors do not only acquire document literacy skills through elementary and secondary schooling. Jarvis (1985) lends support to this notion. Seniors can acquire

and improve their literacy skills by participating in non-systematic educational activities, such as watching television. The IALS (1997) clearly indicates that literacy levels vary with level of education among Canadian seniors for all three dimensions of literacy, particularly the document domain.

This researcher was unsuccessful in recruiting seniors with low socio-economic status because in many studies involving seniors, it is difficult to obtain a sampling frame (Marshall, 1987a). Many of the volunteers for this study were members of church, senior citizens groups, or seniors organizations. The problem is that volunteers are usually better educated, healthier, more mobile, social, and liberal in attitudes, beliefs, and lifestyles (McPherson, 1990). The position that low educational level is associated with low rates of participation is maintained by Statistics Canada (1998). However, the present research does not support these findings. That is, both participants and non-participants in this study had similar educational status. On the other hand, because the investigation lacked research subjects with low educational attainment, it was impossible to test the results reported by Statistics Canada.

The difficulty in engaging older adults age 60 and over to participate in activities outside the home is supported by Health Canada (1993). This includes going shopping, walking, attending church, seniors clubs such as in physical fitness or quilting, and community centres that often organize activities for seniors by seniors. Therefore, the odds of obtaining a large sample of seniors with low socio-economic status would have at best been small. Perhaps, an honorarium or incentive may have motivated a greater number of seniors to participate, especially

those with lower levels of socio-economic status who may not have participated simply because they weren't interested. Furthermore, the researcher could not obtain a sample of seniors who resided in rural areas, limiting our understanding of rural vs. urban participation.

Finally, this study found that the DPS-G was unreliable to measure seniors' deterrents to participation. Darkenwald and Valentine (1995) had previously emphasized that the DPS-G was in need of replication, in that the scale may not be suitable for use with all adult populations, particularly different subgroups. However, the reference groups in this study did not give the researcher any reason to believe that there were other deterrents worth considering than those that were previously found by the authors.

Consequently, no specific test has ever been developed to study what deters seniors from participating in adult learning activities. This is a new area for development. In other words, the scale does not measure the right dimensions relevant to seniors' lives. The incidence of disability, widowhood, death of a family member, group participation, or the effects of exiting from the workforce may be additional concepts to consider in future developments of the scale.

Previously in this chapter, I identified new dimensions worth exploring. Many of which could contribute to the development of a new DPS for seniors. They include: (1) Health dimensions; (2) Economic and/or political dimensions; (3) Social dimensions; (4) Cultural and race/ethnicity dimensions; and (5) Educational and/or environmental dimensions. Furthermore, the researcher did not know to what extent seniors were already involved in other types of learning activities and which

organizations offered them. Also, it may have been more helpful to identify learning activities as formal and informal. The Participation Survey did not take this into consideration. Hence in future studies, it is recommended that during the pilot study, one gathers data from a larger cross-section of seniors. This could be accomplished through interviews, or by using focus groups across more populated regions of Ontario.

The following section addresses the issue of internal consistency in regard to the DPS-G.

Internal Consistency and the DPS-G

Findings from the reliability analysis of this study support the need for a revised Deterrents to Participation Scale. The low reliability coefficients indicate that the 34 items (or questions) in the scale are not all representative of seniors' deterrents to participation. These results may be understandable given that when a psychometric test measures several attributes/dimensions rather than one, Cronbach's alpha may be deflated (Zimmerman, Zumbo, & Lalonde, 1993).

Even though the DPS-G has received support for its content validity and construct validity, as well as its applicability to different populations (Beder, 1990; Beder & Valentine, 1990; Hayes, 1988; Martindale & Drake, 1989; Scanlan, 1986; Valentine & Darkenwald, 1990), in general, the internal consistency of the DPS-G has only been stable with the general public and not with well defined populations or subgroups such as seniors (Darkenwald & Valentine, 1985). The following six points provide a basis for justifying the need to refine the DPS-G to include items that benefit older adult populations.

1. Very little is known about the scale's validation with samples of Canadian adults over the age of 60. In the past, the internal consistency of the DPS-G was estimated using large samples of considerably younger adults. In fact, Martindale and Drake (1989) indicate that on average, participants' age in the validation studies was 43. Furthermore, 62% were female and the majority of the research subjects were employed (Martindale & Drake, 1989). My point is that items such as professional development courses on the DPS-G, may have been relevant only to younger (under age 60) employed adults and not to seniors (age 60 and over) who are inactive or retired from the workforce. In fact, there may have been other particular dimensions of deterrents to participation of seniors that the DPS-G was not able to measure. This resulted in low reliability estimates which is indicative of the multidimensionality of the deterrent construct hypothesis.

2. The standard deviation in many of the DPS-G item structures had high variability and was not conducive in increasing the structure of Cronbach's alpha. As a result, the reliability analysis in this study suggests that seniors' decisions to participate in adult education are influenced for different reasons than for those of other younger adult age groups. In the past, older, retired adults as a homogeneous group were never considered in the construction of the items or by subsequent factor analysis (Darkenwald & Valentine, 1985).

3. Patterns of low item means are characteristic of the original DPS-G and other psychometric instruments designed to identify motivational orientations (Darkenwald & Valentine, 1985). These patterns are commonly used as indicators of the average score in a distribution such as the questions asked on the DPS-G,

and from an applied standpoint, strongly influenced by extreme scores. The low DPS-G item means found in this study, with the majority of the importance ratings "Not Important" to "Slightly Important", suggest that the decision of seniors not to participate in an adult learning activity may be due to the collective effects of additional deterrents, instead of just five or six. Usually, alpha will be higher when there is homogeneity of variances among items than when there is none (Miller, 1995).

4. A high ratio of females to males affected the distribution and perhaps the low reliability estimates of this study; there were close to 22% more elderly females than males. This finding is not unusual in studies involving seniors (Charner & Fraser, 1986; Henry & Basile, 1994; IES, 2000). For example, more elderly women than men are involved with seniors organizations and elderly women tend to be more involved in church, school, cultural, and hobby groups, and elderly men in job-related, fraternal, sport, veterans', and service associations (McPherson & Smith-Lovin, 1982). Also, more women return to education than men (McGivney, 1996).

The fact that more elderly women belong to a greater selection of associations and it is more common for them to attend meetings and activities regularly, may explain why the majority of respondents in this study were elderly female and were recruited from seniors centres. It may also be that many elderly females, especially the very old, are more involved in solitary rather than group activities such as those found in seniors organizations (Moss & Lawton, 1982). On the other hand, it may be that only those who were healthy, physically fit, and had access to transportation participated in this study.

5. Another contributing factor to the low reliability estimates may have been educational attainment. There were very few seniors in this study with low educational status. The majority of respondents had a high level of educational attainment. One explanation is that prior level of education is extremely important in determining the probabilities that seniors will participate in different activities. My point is that low educational attainment may be a determinant of participation in research studies involving seniors, particularly seniors with low literacy skills who are recruited for studies that involve the completion of questionnaires. Researchers have found that rates of participation in adult education and training increase gradually with increasing levels of educational attainment and literacy skills (IALS; OECD, 1997).

6. It is stated that no test developer can present predictive validities for all possible criteria (Cronbach & Meehl, 1955). Understanding that seniors represent a specific sub-population, and that there is a negative fit between predictions and subsequent data, may suggest that the current version of the DPS-G be discouraged for use with older Canadian adults age 60 and over. That is, the test does not measure the construct variables adequately. Perhaps this is a strong declaration to make on the basis of only one study. However, the statement "validity is what the test measures and how well it does so" cannot be taken lightly considering how many differences in the way validity is conceptualized by different authorities (Gray, 1997). This does not indicate that the DPS-G could not be modified to include other particular dimensions of deterrents to participation by seniors. For example, the DPS-G could include: (1) Health dimensions, such as participation in physical fitness

programs; (2) Economic and/or political dimensions, such as self-sufficiency and post-retirement living; (3) Social dimensions, such as group cohesion, interaction, and leadership; (4) Cultural and race/ethnicity dimensions such as language, religion, values, and beliefs as inhibitors of participation; and finally (5) Educational and/or environmental dimensions, such as formal and informal learning contexts and physical environments.

In modifying the DPS-G, using a gerontological perspective may be useful. For example, Findsen (2001, p. 19) argues "this orthodox approach [using the concepts and perspectives from the field of adult education], though helpful, is too restrictive as it does not encapsulate the actual realities of older adults' lives in terms of their existential and material conditions." The author prefers to use a political economy method to understand the opportunities that are opened to different segments of the older population.

Presently, the test should be restricted to use by researchers as an exploratory tool until some degree of validity can be established. Only through replication can we ascertain that there is value in using the DPS-G with seniors. Until then, the DPS-G's use with seniors serves, at best, only as a source of direction about seniors' deterrents, to be confirmed later by other evidence.

Concluding Remarks

This study supports other findings in that there is more ambiguity in our society with formal adult education when it is not vocationally aligned (Henry & Basile, 1994). Formal learning has been defined as "the institutionalized, hierarchical educational system" (Jarvis, 1985, p. 3). It is not known if seniors would perceive

participation in less formal or informal activities more acceptable if they were still working. In any case, it may be helpful to increase seniors' perceived benefits in various adult learning situations and to lower the perceived costs. Rubenson's (1977) Expectancy-Valence model lends support to this notion. Cost reduction measures could include transportation and course fees, and improvements to delivery methods such as offering a wider variety of courses through distance education.

The mode of distance learning is a significant factor in seniors' participation and access to adult education (Carlton & Soulsby, 1999). Two reasons for its significance can be cited. First, many seniors cannot participate or access adult learning activities because of age-related situational barriers, such as in the case of disability preventing adequate mobility, or one's limited access to public transportation. Second, the traditional formal educational approach in designing and delivering adult education programs, such as meeting the needs of adults participating in the workforce, has dominated the field of adult education in the past. Such an approach has been termed the "needs-based approach" to learning (Findsen, 2001).

The rationale behind the "needs-based approach" can be linked to the economic, political, and socio-cultural forces of a society (Cross, 1981). For example, adults need to develop new skills in order to compete in the labour market. While the "needs-based approach" emphasizes the instrumental and progressive characteristics of younger adults (e.g., one's career aspirations), it does not explain or recognize the humanistic, expressive characteristics of older adult learners. In

other words, seniors' reasons for not participating in adult education can be linked to the inability of formal educational institutions to recognize and address older adults' learning needs, such as learning for interest or pleasure. McClusky (1974) lends support to this notion. The author indicates that the learning goals of older adults are better achieved by meeting their "expressive needs". The author further points out that expressive needs are characteristic of older adult learners in that they are no longer interested in learning to pursue a career or obtain a promotion. In other words, seniors participate in adult learning for self-interest or leisure. Hence, program planners in adult education and/or adult educators should realign the modes of distance learning to seniors' "expressive" rather than "instrumental" reasons for learning.

Emphasis on social opportunities obtained from civic, cultural, religious, or recreational activities and organizations (e.g., joining a morning fitness exercise group or learning how to quilt) may also increase the perceived benefits of participation. On the other hand, there may be more realistic methods of increasing participation in order to satisfy the immediate learning needs of seniors. To find out, however, reliable methods or instruments that can be used to identify what deters seniors from participation will have to be developed.

Contribution to Scholarly Knowledge

Much is known about the influence of socio-economic variables on the participation of adults under the age of 60 in organized learning. The Deterrents to Participation Scale-General in conjunction with the Tests of Adult Literacy Skills has never been considered before with adults 60 years of age and over. The unique

features of this study have made significant contributions to knowledge by expanding on what is already known about the variables that influence seniors' decisions to participate in adult learning activities. For example, how seniors perceive employment status and participation in adult education, and how this is connected to their environmental structure and valued in later life, is a central notion in Rubenson's (1977) Expectancy-Valence model of participation.

This study seems to reinforce what is already known about a familiar theme found in Cross' (1981) Chain-of-Response model. That is, attitudes about education are drawn from life events (e.g., retirement) during the life cycle. The notion that past experiences influence participation is also supported by Darkenwald and Merriam (1982). The Psychosocial Interaction model of participation indicates that pre-adult life experiences such as educational attainment and particularly the process of attaining socio-economic status influence adults' decision to participate in adult learning activities. The authors argue that the socialization process and one's subsequent experiences in the educational system are strong determinants of socio-economic status, hence a powerful predictor of participation in adult education. For example, in the pre-adulthood phase, Darkenwald and Merriam (1982, p. 238) maintain that "individual and family characteristics, particularly intelligence and socio-economic status, determine the type of preparatory education and socialization a person undergoes in becoming an adult." As a result, the adult's socio-economic status stems from these pre-adulthood experiences. The belief is that prior education is linked to social class and to participation in adult education. Therefore, the notion that cohort differences such as seniors' past experiences in school, family values,

and individual characteristics (e.g., SES) influence participation in adult education is supported.

Darkenwald and Merriam's (1982) Psychosocial Interaction model of participation depicts adult SES (under age 60) as being influential, with employment status as the most dominant variable. In this study, no evidence was found to suggest that employment status had a major impact on deterrents to participation. However, this study did not examine adults under the age of 60. Furthermore, it did not examine the effect of retirement or occupational status and leisure on participation; two factors that could be associated with older adult learners. In addition, this sample was only representative of higher SES seniors.

When older adult learners and participation are studied, retirement and leisure could be important factors to consider. They may be significant because "an event such as retirement is more likely to trigger participation for someone of higher SES because such a person probably sees learning as a positive activity [and] is likely to be involved in other forms of participation" (Merriam & Caffarella, 1991, p. 240). Investigating this notion could provide researchers with some explanation as to the discrepancy between the characteristics of this sample and the reported research. That is, the reasons people give for learning should correspond consistently to their life situations (Cross, 1981) such as their income, employment, and/or need to further their education.

Finally, this study will expand on our understanding of the world seniors live in, thereby helping them to remain informed members of a fast-changing technical society and recognizing their perceived abilities to succeed in any learning

environment. If seniors perceive themselves as lifelong learners and productive members of a highly technical society, participation rates in many organized learning activities may increase. This includes changing their perceptions of later-life capabilities, successes, attitudes, pre- and post-retirement roles and identities, and about participation in adult education. The perceived importance of lifelong learning is discussed in the Psychosocial Interaction model of participation. The model points out that when the learning press (i.e., the extent to which one's total current environment requires or encourages further learning) is less affirmed, adult education is perceived as less important, useful, or valued. Unfortunately, the learning press notion cannot be tested in this study of only high SES respondents.

Implications for Practice

The following implications for practice stem from the findings of this investigation:

1. For service providers and adult literacy practitioners, the results of the document literacy test scores obtained from this study can be a useful indication of the range of document literacy tasks that adults over 60 years of age can be expected to perform with a high level of consistency. The findings of this investigation indicate that a high proportion of seniors with a high school education or higher perform at level 3 document literacy. However, it is important to keep in mind that education and literacy are not synonymous (Statistics Canada & Human Resources Development Canada, 1996). That is, one's literacy ability is not equivalent to one's educational background.

2. An understanding of the kinds of interrelationships explored between socio-

economic status, literacy, and deterrents to participation will help pre- and post-retirement planners and seniors service providers set personal goals and make future program decisions. There may be areas of instructional strategies that deal specifically with seniors which need improvement or need to receive greater emphasis. For example, policymakers, employers, and industry could ensure that older workers have access to pre-retirement courses that cover all aspects of life including the impact of post-retirement living on married life, housing, diet, time management, and leisure to name a few. These courses could help older workers retain and improve their skills and motivation, and to successfully manage their post-retirement life.

3. The findings of this investigation may be of assistance to policymakers currently addressing seniors' issues such as health, housing, leisure, or transportation. Research indicates positive relationships between education and literacy, education and income, education and health, and that the quality of life of seniors is related to education, health, income and that there are several reasons for these relationships (Statistics Canada & Human Resources Development Canada, 1996). In the case of health issues, policymakers could develop more easier-to-read "guides" to health care services for seniors. Seniors' ability to fill in health-related documents such as eligibility charts for health plans could be given more consideration as well as other complex application forms such as municipal property documents, maintenance agreements, leases, and enumeration forms.

4. The effects of particular deterrents, such as the lack of course relevance and low personal priority, could help determine how well learning activities serve

seniors. Adult educators and program planners should consider and link seniors' educational needs such as interests, length, and practicality to their position or status in the life cycle. Programs could be developed that take into consideration their group socialization needs, hobbies, and job-related reasons for enrolling in adult learning activities. Low personal priority is also indicative of lack of motivation or interest with respect to engaging in adult education. If seniors perceive participation as an infringement on leisure or family time, they will not participate. The implication is that seniors have many competing interests and activities such as volunteer activities, fitness programs, gardening, and family matters. Therefore, program planning should take this into account. Adult educators need to establish collaborative recruitment methods by establishing stronger links and credibility with the elderly community to promote not only the value of lifelong learning but the necessity of it. Rubenson (1977) argued that adults must be able to perceive the value or benefit of an educational activity before they participate. The process of identifying needs can be done by conducting a survey on course preference. In the past, researchers have found that seniors prefer courses on religion, aging, exercise, leisure, the arts, public affairs, and practical problems (Hendrickson & Barnes, 1967). Others (Sarvis, 1973; IES, 2000) indicate that seniors are interested in technology, arts and crafts, consumer protection, foreign languages, and the grey power movement.

5. It is now well known that older adults learn differently from younger adults (Cross, 1981). It must be recognized that developing teaching methods that are more effective for seniors can captivate and sustain their interest, and increase their

participation rates. Unlike with adults under the age of 60, teaching seniors effectively may imply keeping course materials simple. For example, Merriam and Caffarella (1991) suggest teaching courses on gerontology by keeping the psychological jargon at a minimum. Additional consideration should be given to seniors' educational attainment since many seniors today have only completed about nine years of formal schooling (Statistics Canada, 1993). Perhaps course requirements should be made on the basis of interest and willingness to learn, not academic credentials. As a result, participation rates could increase when potential learners know that courses do not lead to a qualification. Studies have found that seniors do not consider qualifications important or useful (IES, 2000).

6. Age-related factors may partly explain why the *employment status* variable had the greatest predictive power on the deterrent *lack of course relevance*. This may suggest that as we get older our perception of employment and/or the value of education may change. For example, the emphasis or value that was once placed on our career lessens with age, and as a result, education is no longer used as the instrument for professional growth. Hence, once we retire or leave the workforce, adult learning activities that once seemed appealing to us as career-oriented individuals no longer fulfill our needs and interests, or do not appear practical, or to have any use.

In summary, *employment status* appears to be an important SES variable to our understanding of later-life participatory behaviour. Moreover, if educational and community-based facilities are to increase the participation rates of seniors who have left the workforce, they will have to better integrate their interests with their

needs.

Areas for Further Research

There are several suggestions for further research:

1. There is a need for replication of the present study. That is, the stability of the identified variables must be ascertained through replication with similar seniors. Other variables may be determined through the use of more diverse samples of low-literate seniors with differing socio-demographic characteristics such as those who reside in rural areas. Statistics Canada (2003) found that small towns and rural areas across Canada had older populations, and that suburban populations are aging more rapidly than those in the larger municipalities. There is a need to investigate more diverse groups of seniors, especially the Aboriginal older adult. Over 6% of seniors belong to visible minority groups in Canada (Statistics Canada, 2001). This is likely to increase given the increase in immigration patterns. This exploratory study represents an initial attempt to address the needs pointed out by Darkenwald (1981), Scanlan (1986), and Fingeret (1982, 1991) for replication using the DPS-G with different subgroups of older adults or populations.

2. An individual's skill in finding and using information from documents such as schedules and charts has been termed document literacy by the International Adult Literacy Survey (IALS; OECD, 1994). The knowledge and skills required to apply arithmetic operations has been defined as quantitative literacy, while prose literacy is the knowledge and skills needed to understand and use information from texts (IALS; OECD, 1997). Though the decline in document literacy level is steady between the age of 25 and 60, for prose and quantitative literacy the decline is

marginal over the same age span but changes occur shortly after the age of 65. For example, Willms (1997) found that all three domains of literacy decline as age increases. The author, however, refers to cohort effects and not age effects. For example, Willms indicates that the decline is associated with the educational attainment of individuals of different ages (i.e., a cohort effect) and not with aging per se (i.e., an age effect). As a result, it would be valuable to investigate the impact of seniors' socio-economic status, such as age and educational attainment, on all three domains of literacy.

3. A research design using qualitative rather than quantitative methods could uncover new predictors relevant to seniors' lives and be more successful at attracting seniors as research subjects. For example, describing social experiences through face-to-face interviews may be more practical for seniors with physical limitations, disabilities, or transportation problems. Hamel (1993) precisely articulates the necessity for describing social experiences in social research. He argues that "to discover the properties of social relationships requires that the object that could reveal them be described as it is defined within the context of the direct meanings that appear in the selected empirical materials" (p. 32). The point is to describe what it means for an elderly person not to be able to participate in an educational activity because they are illiterate or disabled, or can no longer drive an automobile because they have poor vision. As Hamel (1993, p. 33) notes, it is important "to concretely define the experience within the actual context of the experiences of the social actors [in this case seniors] and meanings they assign directly to such experiences." The results of a qualitative inquiry would contribute to the development of new and

relevant items for the DPS-G. Examples of new items that could be included on the DPS-G are "Because I'm on a reduced pension", "Because of poor vision", and "Because the instructor had no tolerance for older people".

4. There is a need to further develop the participant/non-participant profile of the adult learner over the age of 60. Understanding the effects of a variety of socio-demographic variables related to aging and participation and distinguishing the older atypical participant/non-participant adult learner is essential. Attention has been given to instrumental work-related reasons for learning and this has created a large database of information on participation studies involving younger adults. However, there is a need to identify the characteristics of an older participant/non-participant population, particularly as it relates to participating in leisure and learning activities during the pre- and post-retirement phase. A possible line of inquiry could include employment-related factors such as the category of seniors' occupation, for example "professional", and employment-related perceptions such as the satisfaction with one's post-retirement status or identity. Another possible line of inquiry could include social participation factors.

The results obtained from this study were similar in that no differences were found in the educational attainment of both participants and non-participants. There may be differences that need to be identified that manifest themselves between participants and non-participants over the age of 60 who are members of seniors organizations or other community-based programs for seniors. Finally, a possible line of inquiry could include psychosocial factors, for example, the potential importance of seniors' level of powerlessness, perceived ability, and attitude towards adult

education.

5. In refining the DPS-G, factor analysis could help uncover new dimensions of deterrents to participation that are more relevant to seniors' lives. Factor analysis can assist researchers in identifying descriptive categories that reflect the changes in complex patterns of behaviour or relationships in a variety of situations (Anastasi, 1976). Since non-participation can vary according to experiences, the deterrent factors that were retained in the DPS-G may not provide the best measures of deterrents for older adult learners. New underlying descriptive categories such as social participation, health, aging, retirement, leisure, and informal learning contexts need to be explored.

Factor analysis can facilitate the description of data, by alleviating the number of necessary variables or dimensions that are applicable only to the adult population under the age of 60. The current DPS-G factor patterns do not reflect the cumulative effects of the everyday-life experiences of seniors. A new mixed research design, one that uses focus groups for example, could be used to survey a larger sample of seniors over the age of 60; those who are motivated to attend an adult learning activity and those who are not. That is, the use of qualitative methods would provide direction to the researcher in the development of a new quantitative tool.

In summary, the factors of deterrents that were previously identified in the DPS-G by factor analysis are not descriptive of the actual barriers that seniors face in their everyday lives.

6. In order to understand the characteristic of an older adult participant or non-participant, there is a need to study age-related situational variables including

the effects of physical health, transportation, rural versus urban living, disabilities, marital status, widowhood, death of a loved one, occupational status, and number of dependents. This can be accomplished by using cluster analysis, a statistical procedure helpful in determining homogeneous group tendencies or clusters, allowing the formation of attributes into subsets on the basis of their similarity across a set of attributes. The need to continue to seek and design psychometric instruments that measure more reliably the attitudes and motivations of special populations should not be overlooked, but encouraged. This would particularly apply to research studies investigating the forces behind the decisions of seniors who need to participate in organized learning activities and those who won't. Furthermore, it may be more beneficial to use a gerontological perspective when investigating these forces. That is, it is difficult to describe older adults' participatory behaviour from within the field of adult education. This notion is supported by Findsen (2001), who maintains that a "critical gerontology" paradigm is required in order to explain the variances in participation in terms of the social and material contexts older adults engage.

7. There is a need to examine the influence of seniors' social groups on participation. More specifically, these influences include the relationship between social interaction, social cohesion, and seniors' participation in formal and informal adult learning activities and their various outcomes.

The influence of seniors' social groups on participation could be viewed from an economic or technological perspective. Not much is known about the role that technology or a changing economy has played on members of seniors organizations

and participation. There is a need to explain non-participation in terms of the absence of social interaction or social cohesion. An example that could be used to explore these concepts is Schutz's (1958) Fundamental Interpersonal Relations Orientation theory and the FIRO-B measuring instrument. The FIRO-B explores three social dimensions, the need for control, the need for inclusion, and the need for affection. Schutz (1958) believes that these three dimensions of interpersonal relations are necessary and sufficient to explain most human interactions. Furthermore, they are fundamental to all human social organisms such as small groups and in this case, seniors organizations. It would be interesting to test the effect of Schutz's three social dimensions on participation and their various outcomes with older adults. Moreover, it would be tempting to explore the inclusion of these social dimensions as part of a modified version of the DPS-G.

8. Finally, and perhaps more important, we need to have a closer look at the effect of informal learning contexts and type and amount of leisure on the non-participation of older adult learners. This may help us solve the SES mystery in this study which is the lack of explanation among seniors' SES, literacy skills, and participation.

According to Livingstone (1999), learning can occur in three different contexts: (1) Formal, such as preschool to graduate school; (2) Non-formal, such as organized educational programs outside the formal school system (e.g., cooking classes, computer training programs); and (3) Informal, where there is no educational institution, authorized instructor, or prescribed curricula. Livingstone (1999, p. 51) further differentiates an informal learning context from formal and non-

formal learning as “any activity involving the pursuit of understanding, knowledge or skill which occurs outside the curricula of educational institutions, or the course or workshops offered by educational or social agencies.” Under this typology, the participation of seniors in adult education could be understood as learning informally because they commonly prefer to use other sources of learning such as watching television, volunteering, or reading the newspaper, and from other sources such as friends and/or family members (McGivney, 1996). Television viewing remains the most preferred leisure activity reported by seniors; approximately 4 hours per day (Statistics Canada, 1993). This is followed by involvement in volunteer organizations, club activities, reading and writing, gardening, and hobbies such as arts and crafts (Statistics Canada, 1993). My point is that other than attending an elementary, secondary, or post-secondary institution (formal learning), informal learning contexts contribute to seniors’ document literacy skills and that their decision to participate in adult education is influenced by their interests or leisure time. By engaging in informal activities, older adults continue to learn on their own (Aslanian & Brickwell, 1980).

It may be that informal learning activities are more important predictors of literacy skills than formal educational attainment. Rubenson (1977), lends support to this notion indicating that people who take part in adult education, regardless of educational background, tend to be more involved in stimulating and active leisure. Hence, seniors’ educational attainment and literacy skills may not be synonymous. The IALS supports this assumption pointing out that “over one-third of Canadian seniors do not fit this assumed pattern” (Statistics Canada, 1996b, p. 26).

As I described earlier, formal adult learning such as taking a course for credit towards a high school diploma differs from informal adult learning. In an informal learning context, older adults engage in leisure activities such as knitting and quilting or join fitness groups. These activities are usually delivered by seniors at seniors organizations or by church groups rather than most formal educational institutions; at least in rural Ontario. Currently, we don't know if the participation of seniors in informal learning contexts impacts literacy skills. This needs further investigation.

It is plausible that seniors who don't participate in formal learning activities can continue to learn at home with the help of a neighbour, a friend, or a family member. This would be considered as informal learning. No one has ever studied the effect of different learning contexts on seniors' participation, SES, and/or literacy skills.

There is a need to study the impact of social networks on the different types of learning contexts among the undereducated older adult learner. Fingeret (1983a) argued that many individuals learn due to their rich social networks. The IALS (1997) found that a large percentage of the undereducated respondents in the sample were very much engaged in informal modes of learning. As a result, it would be interesting to compare the impact that seniors organizations, volunteer groups, family members, and friends have on the undereducated older adult and learning.

In regards to leisure, the IALS (1997), reported fluctuations between low literacy age groups indicating that the discrepancy between seniors and the younger age groups may in part be explained by the greater leisure time available to seniors. This notion has never been tested before, but it has been implied by other

researchers (Laslett, 1989; Lowy & O'Connor, 1986). The argument has been that since seniors usually exercise fuller autonomy in self-fulfillment, they engage in learning activities for personal interests and leisure. Since most seniors are out of the paid workforce, the emphasis is on freedom, autonomy, individual growth and self-actualization in that they take part in learning activities for their own sake and not for the sake of furthering career objectives. This would support Findsen's (2001) claim that the focus is on the expressive rather than the instrumental character of the older adult learner.

Income may be a weak predictor of older adult learners' participation. The IALS (1997) supports this assumption because income is not stable over time. Obtaining data on sources of seniors' income is complicated because many seniors do not want to reveal this information. Those who are retired may receive public and/or government pensions as their only source of income, yet there may be many seniors who receive supplementary incomes from other non-disclosed sources, such as bonds, mutual funds, and/or real estate investments. Hence, the effect of income on seniors' participation is difficult to assess.

While there were slightly more female than male respondents in this study, group means were insignificant. We should have expected a significant difference since the literature indicates that women have a higher rate of participation in educational activities (McGivney, 1996). Therefore, we need to examine the role of gender on non-participation more closely.

In conclusion, we cannot continue to believe that older adult learners can only be assisted through formal schooling programs. Perhaps retirement and leisure

activities can account for the SES discrepancies that were found in this study and not reported in related literature. That is, seniors' participation increases when exiting the workforce because they have more time and not decreases as the literature suggests. In any event, and as Findsen (2001) argues, it may be more useful to analyze seniors' non-participation in terms of the social and material conditions in which older adults engage in life.

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Appendix A

Recruitment Advertisement Text for Research Subjects

RESEARCH STUDY

Seniors 60 years of age or older needed

Seniors 60 years of age or older are needed to participate in a research study on literacy skills and participation in educational activities. If selected, your ability to understand and use information such as found in documents, charts, or maps will be tested as well as any past or current involvement in adult educational activities. These activities may include general interest courses such as learning how to use a computer or knitting, or may be workshops, seminars, or any other type of training program offered by a school, college, organization, or community group. If you volunteer, your participation will involve completing 2 questionnaires in a small group of seniors. While it may take 90 minutes to complete the study, refreshments and breaks will be provided. To register, you must be 60 years of age or older, a resident of Ontario and have no major health problems. If you are interested in participating in this study, please call the researcher Yvon J. Cloutier at _____ (leave message) for the time, date, and location of the testing site . Confidentiality is assured.

Appendix B

Participation Survey

Directions: Every year, more and more adults participate in some kind of adult education activity. Examples include courses, workshops, seminars, and training programs offered by schools, colleges, and other organizations or community groups. In the following section, you are asked to think of adult learning activities that you participated in the past year or two. (Please note: in the questions below, the word "course" refers to *any* type of adult educational activity, including courses, workshops, seminars, etc.)

Please circle only 1 response for each question.

QUESTIONS

1. In how many of such activities have you participated in the last 2 years?

- a) none b) one c) 2 or 3 d) more than 3

2. Which kind of course(s) did you participate in?

Thank you for your cooperation!

Appendix C

Deterrents to Participation Scale-General (DPS-G)

ADULT LEARNING QUESTIONNAIRE

Directions: Every year, more and more adults participate in some kind of educational activity. Examples include courses, workshops, seminars, and training programs offered by schools, colleges, and other organizations or community groups. However, adults sometimes find it hard to participate in these activities, even when they want to. Try to think of something — *anything at all* — that you wanted to learn in the past year or two, but never did. 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 to follow, the word “course” refers to *any* type of educational activity, including courses, workshops, seminars, etc.)

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 think I would be able to finish the course	1	2	3	4	5

	Not Important	Slightly Important	Somewhat Important	Quite Important	Very Important
5. Because I didn't have time for the studying required	1	2	3	4	5
6. Because I wanted to learn something specific, but the course was too general	1	2	3	4	5
7. Because I didn't meet the requirements for the course	1	2	3	4	5
8. Because the courses available did not seem interesting	1	2	3	4	5
9. Because the course was offered at an inconvenient location	1	2	3	4	5
10. Because I couldn't afford the registration or course fees	1	2	3	4	5
11. Because I felt I was too old to take the course	1	2	3	4	5
12. Because I didn't know about courses available for adults	1	2	3	4	5
13. Because of the amount of time required to finish the course	1	2	3	4	5
14. Because the course was scheduled at an inconvenient time	1	2	3	4	5

	Not Important	Slightly Important	Somewhat Important	Quite Important	Very Important
15. Because my family did not encourage participation	1	2	3	4	5
16. Because of transportation problems	1	2	3	4	5
17. Because the courses available were of poor quality	1	2	3	4	5
18. Because I was not confident of my learning ability	1	2	3	4	5
19. Because of family problems	1	2	3	4	5
20. Because I'm not that interested in taking courses	1	2	3	4	5
21. Because participation would take away from time with my family	1	2	3	4	5
22. Because I had trouble arranging for childcare	1	2	3	4	5
23. Because the available courses did not seem useful or practical	1	2	3	4	5
24. Because I wasn't willing to give up my leisure time	1	2	3	4	5
25. Because the course was offered in an unsafe area	1	2	3	4	5
26. Because education would not help me in my job	1	2	3	4	5
27. Because I felt unprepared for the course	1	2	3	4	5

	Not Important	Slightly Important	Somewhat Important	Quite Important	Very Important
28. Because I couldn't afford miscellaneous expenses like travel, books, etc.	1	2	3	4	5
29. Because the course was not on the right level	1	2	3	4	5
30. Because I didn't think I could attend regularly	1	2	3	4	5
31. Because my employer would not provide financial assistance or reimbursement	1	2	3	4	5
32. Because I didn't think the course would meet my needs	1	2	3	4	5
33. Because I prefer to learn on my own	1	2	3	4	5
34. Because my friends did not encourage my participation	1	2	3	4	5

35. What is your gender? (Circle *one* number)
- 1 Female
2 Male
36. What is your age? (Write in number of years)
- _____ Years
37. What is your *highest* educational attainment?
(Circle *one* number)
- 1 *some* elementary school
2 completed elementary school
3 *some* high school
4 High school diploma
5 *some* college
6 College diploma
7 *some* university
8 Bachelor's degree
9 Graduate degree

38. What is your approximate total family income before taxes? (circle *one* number)

- 1 Less than \$15,000
- 2 \$15,000 to \$29,999
- 3 \$30,000 to \$44,999
- 4 \$45,000 to \$59,999
- 5 \$60,000 or more

39. What is your current employment status? (circle *one* number)

- 1. Employed full-time
- 2. Employed part-time
- 3. Not employed

Please print your name and address ONLY if you would like the results of your tests mailed to you.

Name: _____ City: _____ Prov. _____ Postal Code _____

THANK YOU FOR PARTICIPATING IN THIS STUDY

Appendix D

Letter of Permission to Reproduce the TALS Form B

Corporate Contracts and
Proprietary Rights Department

Educational Testing Service
Rosedale Road • Princeton, NJ 08541

Telephone: 609-921-9000
Facsimile: 609-734-5183
Web Site: www.ets.org

Educational Testing Service



December 4, 2000

Yvon J. Cloutier
University of Ottawa
Box 427
Kenora, Ontario
Canada P9N 3X4

Dear Mr. Cloutier:

Thank you for your request to use ETS's copyrighted adult literacy materials. We understand that you will use these materials in your dissertation research, entitled "*Deterrents to Participation and Literacy Skills*" at the Faculty of Education, University of Ottawa, Ontario, Canada.

Educational Testing Service is pleased to grant royalty-free, nonexclusive, nontransferable permission to reproduce the Test of Adult Literacy Skills (TALS) Form B. The following terms apply to this permission:

1. The material is to be used only for the research purposes described in your correspondence with ETS, and may not to be distributed, published, or used in any other manner without prior written permission from ETS.
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3. The test materials may not be placed in the actual dissertation report, and may not be made available to University Microfilms, Inc. or to any other third party.

Sincerely,

A handwritten signature in cursive script that reads "Anne F. Marcantonio".

Anne F. Marcantonio
Licensing Administrator

Appendix E

Letter of Introduction

(To be *read* by the researcher to all participants)

Principal investigator: Yvon Cloutier, PhD student, Faculty of Education, University of Ottawa. Supervisor: Dr. Maurice Taylor.

As a doctoral student, and to fulfill the requirements of my degree, I need your help by means of completing the attached questionnaire for a project. The purpose of this project is to investigate the participation of seniors age 60 and over in educational learning activities and literacy skills.

Research Method

The first part will involve completing a questionnaire on your learning activities (you should expect personal questions) and a short participation survey. The second part of this study involves completing an evaluation of your literacy skills.

Confidentiality

Your participation in this study is voluntary, however, your full contribution may help others understand seniors' reasons for not participating in an adult learning activity and how to increase those activities. Should you decide to participate, your identity will remain confidential. You may refuse to answer any questions that you may feel uncomfortable with. However, you should understand that full participation is anticipated and required for this study to be successful.

Thank you for your cooperation!

Appendix F
Consent to Participate Form

Principal investigator: Yvon J. Cloutier, PhD student, Faculty of Education, University of Ottawa. Supervisor: Dr. Maurice Taylor.

The purpose of this study is to investigate the participation of seniors 60 years of age or older in adult learning activities and literacy skills.

I _____ (print clearly) am interested in participating in a study that involves giving information about my experiences in adult educational learning activities and my literacy skills. My participation will consist of attending a 90 minute testing session during which I will complete two written questionnaires. I have been assured by the researcher that there are no physical or psychological risks involved. The information I provide will only be used to develop a better understanding of my experiences for the PhD thesis and subsequent publication in a scholarly journal.

My participation has been clearly explained to me. I have been assured that my name will not be used in written materials or oral presentations. I am free to withdraw from the study at any time, refuse to participate or answer questions without prejudice. I have been assured by the researcher that the data collected from this study will be stored and kept safe in a locked security cabinet and in a secure office while in the researcher's possession. I understand that after 5 years, my test scores and any other information I provide will be erased from computer files and that the questionnaires I completed will be burned by the researcher.

Any concerns about the ethical conduct of this study may be addressed to Lise Frigault, Protocol officer for ethics in research, Tabaret Hall, room

If I need further information about this study,

I may contact Dr. M. Taylor at (

There are two copies of the consent form, one of which I may keep.

I _____ (print your name clearly) have read the above statements and agree to participate under the conditions stated above.

Signature of Participant

Date: month/day/year

Signature of Researcher

Date: month/day/year

Appendix G

Description of Applied Literacy Levels for Each Scale

	Prose	Document	Quantitative
Level 1 (0 - 225)	Most of the tasks at this level require the reader to locate one piece of information in the text that is identical or synonymous to the information given in the directive. If a plausible incorrect answer is present in the text, it tends not to be near the correct information.	Most of the tasks at this level require the reader to locate a piece of information based on a literal match. Distracting information, if present, is typically located away from the correct answer. Some tasks may direct the reader to enter personal information onto a form.	Although no quantitative tasks used the IALS fall below the score value of 225, experience suggests that such tasks would require the reader to perform a single, relatively simple operation (usually addition) for which either the numbers are already entered onto the given document and the operation is stipulated, or the numbers are provided and the operation does not require the reader to borrow.
Level 2 (226 - 275)	Tasks at this level tend to require the reader to locate one or more pieces of information in the text, but several distractors may be present, or low level inferences may be required. Tasks at this level also begin to ask readers to integrate two or more pieces of information or to compare and contrast information.	Document tasks at this level are a bit more varied. While some still require the reader to match on a single feature, more distracting information may be present or the match may require a low-level inference. Some tasks at this level may require the reader to enter information onto a form or to cycle through information in a document.	Tasks in this level typically require readers to perform a single arithmetic operation (frequently addition or subtraction) using numbers that are easily located in the text or document. The operation to be performed may be easily inferred from the wording of the question or the format of the material (for example, a bank deposit form or an order form).
Level 3 (276 - 325)	Tasks at this level tend to direct readers to search texts to match information that require low-level inferences or that meet specified conditions. Sometimes the reader is required to identify several pieces of information that are located in different sentences or paragraphs rather than in a single sentence. Readers may also be asked to integrate or to compare and contrast information across paragraphs or sections of text.	Tasks at this level appear to be most varied. Some require the reader to make literal or synonymous matches but usually the matches require the reader to take conditional information into account or to match on multiple features of information. Some tasks at this level require the reader to integrate information from one or more displays of information. Other tasks ask the reader to cycle through a document to provide multiple responses.	Tasks found in this level typically require the reader to perform a single operation. However, the operations become more varied—some multiplication and division tasks are found in this level. Sometimes two or more numbers are needed to solve the problem and the numbers are frequently embedded in more complex displays. While semantic relation terms such as "how many" or "calculate the difference" are often used, some of the tasks require the reader to make higher order inferences to determine the appropriate operation.
Level 4 (326 - 375)	These tasks require readers to perform multiple-feature matching or to provide several responses where the requested information must be identified through text-based inferences. Tasks at this level may also require the reader to integrate or contrast pieces of information, sometimes presented in relatively lengthy texts. Typically, these texts contain more distracting information and the information that is requested is more abstract.	Tasks at this level, like those in the previous levels, ask the reader to match on multiple features of information, to cycle through documents, and to integrate information. Frequently however, these tasks require the reader to make higher order inferences to arrive at the correct answer. Sometimes conditional information is present in the document, which must be taken into account by the reader.	With one exception the tasks at this level require the reader to perform a single arithmetic operation where typically either the quantities or the operation are not easily determined. That is for most of the tasks at this level, the question or directive does not provide a semantic relation term such as "how many" or "calculate the difference" to help the reader.
Level 5 (376 - 500)	Some tasks at this level require the reader to search for information in dense text that contains a number of plausible distractors. Some require readers to make high-level inferences or use specialized knowledge.	Tasks at this level require the reader to search through complex displays of information that contain multiple distractors to make high-level inferences, process conditional information, or use specialized knowledge.	These tasks require readers to perform multiple operations sequentially and they must discern the features of the problem from the material provided or rely on background knowledge to determine the quantities or operations needed.