A Causal Model of Selected Work Orientation Factors in the Elderly

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A Causal Model
of Selected Work Orientation
Factors in the Elderly

by
Diane Sorenson Kjos

A Dissertation Submitted to the Faculty of the Graduate School
of Loyola University of Chicago in Partial Fulfillment
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She began her graduate education at Syracuse University during the summer of 1973 and in November of that year transferred to Governors State University, Park Forest South, Illinois, where she received a Master of Arts in Human Learning and Development in June, 1974.
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CHAPTER I

PURPOSE OF THE STUDY

Older persons constitute the fastest growing segment of our nation's population. Not only do more and more people live longer, they age healthier than did earlier generations of older persons. As a result, there are a growing number of older persons who are educated, healthy and active. Recent legislation increasing the age of mandatory retirement along with better health care and increased longevity contribute to the potential of a longer work life and increased choices in retirement, work and leisure for this segment of the population (Fozard & Popkin, 1978). These factors have served to influence a growing concern for the counseling needs of this population. With an anticipated increment in both the health and length of life, issues such as life planning and alternatives for continued involvement and achievement take on a new importance both to the older population and to counselors who would work with them.

It is recognized that the choice of whether or not to work after formal retirement on the part of the older person is influenced by a multitude of personal and situational factors. This study focuses on the selected individual factors
of race, sex, age, level of education, self-perceived work competence, self-perceived health status, locus of control and self-perceived financial adequacy and how they effect the determination to seek employment or the tendency to be employed on the part of persons 62 years of age and older. Older persons who report that they are seeking employment, older persons who are working at least 15 hours a week and older persons who are neither working nor seeking employment are studied.

The basic hypothesis tested is that the determination to seek part-time, full-time or temporary employment on the part of persons aged 62 years and over is partially a function of the interactive and additive main effects of race, sex, age, level of education, self-perceived work competence, self-perceived health status, locus of control and self-perceived financial adequacy.

Based on the hypothesized interactive and additive effects of these variables, a predictive or causal model is developed and tested using multiple regression and path analysis. This allows for the measurement of the amount of impact each variable has on the others (Blalock, 1967) and the determination of whether the proposed set of interpretations is constant throughout (Wright, 1960).

Overall, this study is therefore an attempt to deter-
mine the impact of a selected number of individual factors on the older person's determination to seek part-time or temporary employment. Specifically, this study is designed to obtain relative estimates of the magnitude of relationships of specific variables as they apply to a selected population of persons aged 62 and over as follows:

1. Direct and indirect effects of race, sex and age on work orientation.

2. Direct and indirect effects of race, sex and age on level of education.

3. Direct and indirect effects of race, sex and age on self-perceived work competence.

4. Direct and indirect effects of race, sex and age on self-perceived health status.

5. Direct and indirect effects of race, sex and age on external locus of control.

6. Direct and indirect effects of level of education, self-perceived work competence, self-perceived health status and locus of control on work orientation.

7. Direct effect of self-perceived financial need on work orientation.

**Importance of the Study**

Optimum aging is related to continued social involvement and activity. On the other hand, social pressures, financial considerations and the prevailing practices and
norms related to retirement work together to dictate major reductions in life-style, levels of activity and social involvement on the part of older persons.

The age of retirement is perceived by many as both the onset of old age and a time for new beginnings. It is an event equally anticipated and dreaded by the aging individual. It requires, in addition to lifestyle changes, a shift in value systems and new learning (Bromley, 1966; Peck, 1968; Ross, 1974). At the same time, because retirement is a fairly new institution in our society and because retirees themselves are healthier and live longer than generations preceding them, actual retirement roles continue to be in flux.

The lack of firmly set and accepted roles for older persons, combined with the harsh reality of a reduced income in the face of rising inflation, increases the anxiety for the elderly at a time in life when their supportive social network is fading and the anticipated "leisure" of retirement becomes an ambiguous resource. The ambivalence and dissonance which accompanies society's view of retirement roles is reflected in the apparent confusion concerning the older persons' desire and propensity to work after formal retirement.

Based on Department of Labor (1976) statistics,
increasingly larger numbers of older persons, particularly men, choose not to work after age 65. In addition, more and more workers are choosing early retirement. On the other hand, a significant number of older persons choose to return to the labor force after formal retirement or remain in at a reduced rate. In 1974, the Louis Harris Survey for the National Council on Aging identified over two and one-half million persons over age 65 who were working full or part-time. Of even greater note is the fact that over four million persons over age 65 were identified as wanting to work but not working at that time. Considering this data in conjunction with Department of Labor (1976) statistics which show 19,098,000 people age 65 and over in 1970 and 21,305,000 people age 65 and over in 1975, it appears that, in addition to an approximate 12.5% of those over age 65 who were working, about 20% more wished to work. Thus, nearly one-third of those over age 65 were either in the labor force or seeking admission.

A later study conducted for the Illinois Department on Aging (Meier, 1976), concluded that part-time employment becomes more important for both men and women in the later years, particularly after age 65. A large number of internal and external factors interact to influence the relative importance of employment for the older person including financial status, job availability, job discouragement and
health status. The study concludes that more information on specific employment service needs of older workers is required.

Relative importance of employment options after age 65 may well increase, particularly as a result of recent legislation and the growing concern with the current public and private pension system. The Age Discrimination in Employment Act Amendments of 1978 (Public Law 95-256) raised the age protection against mandatory retirement from 65 to 70 for most workers in the private sector beginning January 1, 1979. In addition, this law removed the mandatory retirement age of 70 for most federal workers as of September 30, 1978. In an overview of public and private pension concerns, Sheppard and Rix (1977) note that a large number of major pension plans have significant financial weaknesses related to poor planning, early retirement, increased benefits, increased longevity and uncontrolled inflation.

It appears that the subculture of the aged may best be characterized by its wide variability related first of all to the fact that old age as we commonly describe it can last well over 30 years or one-third of a lifetime. Further contributing to this variability is the vast differences in environments, opportunities and activities available to all persons in our country over a life span.
Age of retirement, retirement styles and roles are also variable and change over time for each individual. Certain patterns, such as mandatory retirement for specific groups and open-ended options for others, may be observed. Professionals such as doctors, lawyers, artists and writers may never retire. The very poor, those who have worked as domestics, janitors and laborers, may not be able to choose to retire. Financial necessity or lack of resources, options and opportunities necessary to fill the newly acquired leisure hours that come with retirement may serve to make retirement an unaffordable and undesirable luxury for many.

In The Graying of Working America (1977), Shepard and Rix enumerate a series of trends and developments which they believe directly effect retirement age decisions. They include:

1. The trend toward more and more persons retiring at an earlier age.

2. The increased population of retired persons, and the apparent increase in the number of years they live in retirement.

3. The current downward trend in fertility rates, producing a zero population growth, and a smaller number of persons eventually moving into the workforce to support the increasing non-working older population.

4. Biomedical progress toward increasing the death age.

5. Rising expectations and demands for a better retirement income.
6. Changes in the energy and resource base that might negatively affect the productivity levels needed to support the non-working population.

7. A continuation of inflation rates above those of the past few decades. (p. vi)

There is a growing consensus in the field that a major task of the coming decades is the development of flexible, multiple careers and gradual retirement which will provide many more opportunities for individuals to switch careers, to enroll in continuing education programs, and to withdraw from the work sphere gradually. Bernice Neugarten (1975) states that:

A vigorous and educated young-old group can be expected to develop new needs with regard to the meaningful use of time. They will want a wide range of options and opportunities both for self-enhancement and for community participation. (p. 8)

In 1976, the Edna McConnell Clark Foundation identified 72 formal and numerous informal private not-for-profit employment services which had "developed spontaneously to help retirement age people who need to work to find the employment they need" (1976:2). Emphasis has been placed primarily on responding to the immediate placement needs for this population.

With the underlying assumption that employment options are generally beneficial to both the older person and society, counselors and social planners in aging need to
sort through the variability and ambiguity surrounding the question of: who among the older population chooses to work and why? The wide variability in the aging population, coupled with the multiple factors surrounding the employment decision or work orientation of the older person provides a plethora of unanswered questions and issues.

In July, 1977, eleven knowledgeable researchers and administrators in the field of retirement met to explore some basic issues of retirement research (Atchley, 1979). Issues that were considered included the definition of retirement, types of retirement and factors in the retirement process. A number of research questions were identified including those concerning financial needs and resources, physical and mental ability for employment, social-psychological characteristics and personality factors, all of which are addressed either directly or indirectly by this study.

Thus, the importance of this study is that it responds to a particular area of the total retirement question at a time when the question of post-retirement employment options is of concern to both counselors and social planners in the field of aging. Results of the study should indicate areas where further, in-depth research would be helpful. It should further contribute to a clarification of some of
the issues and factors surrounding options and choices for employment for older persons.

**Definition of Variables**

For the purposes of this study, the following definitions of terms and variables are used.

**Retirement**--The concept of retirement is based on the minimum age that a worker is eligible for Social Security Retirement Benefits, age 62. Thus, individuals who are 62 years of age and over who are working would be considered among the "post-retirement employed".

**Race**--Two races, "white" and "other", are used as measurable answers. No response on the part of the respondent is treated as a missing variable.

**Age**--Minimum age for inclusion in the study is 62. Those giving an indefinite age such as "over 65" are used but age is treated as a missing variable for these cases.

**Level of Education**--The highest level of education as reported by the respondent. The terms "some college" and "trade school" are considered coequal because of the assumed affect these experiences would have on potential employability.

**Self-Perceived Work Competence**--The respondents' self-rating on two dimensions; general learning and worker effectiveness.

**Self-Perceived Health Status**--The respondents' self-
rating on three statements related to relative health status and level of disability.

Locus of Control--The relative external locus of control as measured by the Rotter Locus of Control Scale (Rotter, 1966).

Perceived Financial Status--The respondents' perceived financial need on a four point scale ranging from high need to low need.

Work Orientation--The respondents' self-reported work orientation. Working is defined as being employed for 15 hours or more a week for pay. Responses such as "volunteer" or "housewife" are considered as missing variables.

Description of the Causal Model

Because they are determined at birth and have institutional significance, race, sex and age are considered to be exogeneous variables which are independent of each other and which contribute to or have a causal effect on the level of education, self-perceived work competence, self-perceived health status, locus of control and work orientation of the sample. Race and sex are postulated to have such effect because of the institutional patterns of racial and sexual discrimination as they relate to educational attainment, personal development and opportunities for personal causation for the individual throughout the life
span. Age is postulated to have a negative relationship to level of education, self-perceived work competence and self-perceived health status because of the differing levels of educational experience for each new generation of older persons and the decremental aspects of aging. Age is further postulated to have a direct effect on external locus of control because of the perceived negative effects of aging in today's society and the concurrent realities of diminished control.

Level of education is taken as the first dependent variable. However, in addition to its theorized dependency on race, sex, and age, it is postulated to have a direct causal effect on self-perceived work competence and self-perceived health status, a negative effect on external locus of control and the work orientation of the older person. A higher level of education is seen to be representative of a higher work status, higher perceived competence and a more positively perceived health status as well as affording increased opportunities for exercising personal causation and affording increased employment opportunities.

Self-perceived work competence and self-perceived health status are taken as the second and third dependent variables, being dependent on race, sex, age and level of education. In addition, they are seen as having a negative
effect on external locus of control and work orientation. A higher self-perceived work competence and more positive health status are seen as contributing to a more internal locus of control and an increased propensity to seek employment or to be employed.

External locus of control is taken as the fourth dependent variable in relationship to race, sex, age, level of education, self-perceived work competence and self-perceived health status, with a causal effect on work orientation after age 62. Persons with a higher internal locus of control are posited to have a higher regard for the importance of work and a higher propensity to identify with work following retirement.

Finally, perceived financial need is postulated to have a direct causal effect on work orientation because of the relationship between work and additional income.

**Hypothesized Relationships**

The specific covariances to be studied and the hypothesized relationships are as follows:

1. Age to level of education (EDUC/AGE) - negative relationship. It is hypothesized that older persons will have lower levels of education than younger persons.

2. Sex to education (EDUC/SEX) - positive relationship. It is hypothesized that women will have higher levels
of education than men.

3. Race to education (EDUC/RACE) - positive relationship. It is hypothesized that whites will have higher levels of education than non-whites.

4. Age to work competence (COMP/AGE) - negative relationship. It is hypothesized that older persons will evidence a lower level of self-perceived work competence than younger persons.

5. Sex to work competence (COMP/SEX) - negative relationship. It is hypothesized that women will evidence a lower level of self-perceived work competence than men.

6. Race to work competence (COMP/RACE) - positive relationship. It is hypothesized that whites will evidence a higher level of self-perceived work competence than non-whites.

7. Education to work competence (COMP/EDUC) - positive relationship. It is hypothesized that those with higher levels of education will tend to evidence a higher level of self-perceived work competence than those with lower levels of education.

8. Age to health (HEAL/AGE) - negative relationship. It is hypothesized that older persons will report a lower self-perceived health status than younger persons.

9. Sex to health (HEAL/SEX) - negative relationship. It is hypothesized that women will report a lower self-perceived health status than men.
10. Race to health (HEAL/RACE) - positive relationship. It is hypothesized that whites will report higher levels of self-perceived health status than non-whites.

11. Education to health (HEAL/EDUC) - positive relationship. It is hypothesized that individuals with higher levels of education will report a higher self-perceived health status than individuals with lower levels of education.

12. Competence to health (HEAL/COMP) - positive relationship. It is hypothesized that individuals reporting a higher self-perceived work competence will also report a higher self-perceived health status than those reporting a lower self-perceived work competence.

13. Age to locus of control (LOC/AGE) - positive relationship. It is hypothesized that older persons will evidence a more external locus of control than younger persons.

14. Sex to locus of control (LOC/SEX) - positive relationship. It is hypothesized that women will evidence a more external locus of control than men do.

15. Race to locus of control (LOC/RACE) - negative relationship. It is hypothesized that non-whites will tend to be more external than whites.

16. Education to locus of control (LOC/EDUC) - negative relationship. It is hypothesized that individuals with higher levels of education will tend to be less external
than those with lower levels of education.

17. Work competence to locus of control (LOC/CMP) - negative relationship. It is hypothesized that persons who report a higher level of self-perceived work competence will tend to be less external than those who report lower levels of self-perceived work competence.

18. Health to locus of control (LOC/HEAL) - negative relationship. It is hypothesized that persons who report a higher level of self-perceived health status will tend to be less external than those who report lower levels of self-perceived health status.

19. Age to work (WORK/AGE) - positive relationship. It is hypothesized that older persons will be more likely to be not working than younger persons.

20. Sex to work (WORK/SEX) - positive relationship. It is hypothesized that women will be more likely to be not working than men.

21. Race to work (WORK/RACE) - negative relationship. It is hypothesized that whites would be more likely to be working than non-whites.

22. Education to work (WORK/EDUC) - negative relationship. It is hypothesized that persons with higher levels of education would be more likely to be working than those with lower levels of education.

23. Competence to work (WORK/CMP) - negative rela-
tionship. It is hypothesized that persons with higher levels of self-perceived work competence would be more likely to be working than those with lower levels of self-perceived work competence.

24. Health to work (WORK/HEAL) - negative relationship. It is hypothesized that persons with higher levels of self-perceived health status would be more likely to be working than those with lower levels of self-perceived health status.

25. Locus of control to work (WORK/LOC) - positive relationship. It is hypothesized that persons who tend to be more external would be more likely to be not working.

26. Finance to work (WORK/FIN) - negative relationship. It is hypothesized that persons who evidence a higher level of self-perceived financial need would be more likely to be working than those who report lower levels of financial need.

This complex pattern of relationships can be more clearly expressed by the path diagram shown in Figure 1 which represents the hypothetical causal model to be tested in the present investigation.

Limitations of the Study

The primary limitations of the study are threefold. The first lies in the voluntary sample, which cannot be
Figure 1
Hypothesized Path Model
seen as representative of all persons over 62. The second limitation is related to the arbitrary selection of a limited number of variables in studying a phenomenon which is, no doubt, effected by a wide range of specific and non-specific variables. The third limitation is inherent in the assumptions underlying path analysis or the causal model. Path analysis assumes a linear, additive and unidirectional relationship between variables. It cannot be interpreted as a cause and effect relationship, but a weak causal ordering of variables with the implication of possible manipulation (Kim and Kahout, 1975).

Outline of the Study

In this chapter the purpose and importance of the study are discussed. Definitions of variables and terms used in the study are given and the causal model research hypothesis is presented. Finally, some limitations of the study are described.

Chapter II is a review of related literature on post-retirement employment, locus of control and the other variables included in the study.

In Chapter III the procedures and methodology employed in the study are detailed, including how the data were analyzed.
Chapter IV presents the results of the study including characteristics of the sample, hypothesis testing of the causal model and a modified model. The findings are discussed.

Chapter V gives a summary of the study, conclusions reached and recommendations for further study and action.
CHAPTER II

REVIEW OF RELATED LITERATURE

The purpose of this study is to determine the impact of a selected number of individual factors on the older person's determination to seek part-time, full-time or temporary employment. This chapter examines the literature on post-retirement employment and reviews research related to the selected factors of race, sex, age, level of education, work competence, health status and locus of control as they apply to the work orientation of the older population.

The literature review pivots around two issues: post-retirement employment and locus of control, particularly in the older population. Following a general overview of the issue of post-retirement employment, the selected intervening variables of race, sex, age, work competence and health status are examined with primary concern as to how they relate to employment in the older population. Next, research related to locus of control in the older population is systematically reviewed. The position of locus of control as both a contributing factor and an outcome is discussed. Finally, the factor of perceived financial adequacy and the relationship of this factor to em-
employment and retirement is presented.

Post-Retirement Employment

In a general review of the literature regarding post-retirement employment and the older worker, three important points stand out:

- many older persons do want to work, at least on a part time basis.
- older persons have the right to work and have something to contribute.
- work is beneficial to older persons.

This section presents a review of selected post-retirement employment literature focusing on the desire to work, the right to work and the benefit of work as these issues relate to the older population.

Desire to Work

In 1974, Louis Harris and Associates conducted an extensive survey for the National Council on Aging. In their report issued in 1976, they assert that they identified two and one-half million older persons who were working full or part-time. In addition, over four million persons were identified as wanting to work but not actually working at that time. Thus, on the basis of their survey, for every five older persons working, there were an additional eight who wished to work. This desire to work,
according to the Harris survey, appears to be across the age span and not directly related to work status. Those who were working were characterized as somewhat better educated, feeling the need for additional money and somewhat younger.

The conclusions of the Harris survey were verified in research conducted by the Edna McConnell Clark Foundation in 1976. In a report of this study, older persons wanting to work are characterized as:

...retired, in their sixties, wish to retain social security benefits, need supplemental income, and want to continue to be active but on a reduced schedule. (p. 4)

Agencies participating in this study reported that between 70% to 90% of all senior placements are for part-time employment.

Older persons continue to request placement from formal job placement programs and through subsidized programs such as those funded through the Comprehensive Employment and Training Act. In 1975, the reported unemployment rate for women 65 and over was 5.1% (United States Department of Labor, 1976). The Age Discrimination Study of the United States Civil Rights Commission (1976) cites a reported unemployment rate of 2.1% for the over 65 population as a whole. These statistics do not account for what is called "discouraged" workers who do not seek assistance in
finding employment or for those who have given up in their efforts to find employment.

More recently, a survey utilizing a multi-stage probability sample of over 800 persons age 65 and over in suburban Cook County was conducted by the Survey Research Center of the University of Illinois for the Suburban Cook County Area Agency on Aging (Cabral, 1979). The center found that 15.7% of the sample would be willing to participate in a two to three week paid training program if it lead to an acceptable job. Further, 70% of those persons who were at that time looking for work indicated that they preferred part-time employment.

A significant number of older persons would like the option to work, preferably on a part-time basis. The importance of employment to the older population is related to the basic need to earn a living as well as the fact that continued employment allows for participation and a sense of dignity for the older individual.

Right to Work and Contribute

The growing number of active, healthy, well-adjusted and articulate older persons gives impetus to an increased awareness of the employment rights of this population and the recognition of the older worker in today's economic structure.
Kasshau (1976) sees post-retirement employment options as a "right" of the older person and as a deterrent to social breakdown. Palmore (1969) maintains that:

...because of the aged's extensive experience and practice, many have developed high levels of skills, emotional stability, wise judgement, and altruism... these abilities can and should be channeled into constructive roles. (P. 22)

He further asserts that:

The idea that society can provide only a limited number of jobs and that therefore it cannot provide enough jobs for aged workers is no longer accepted by most economists. Society could create a useful role for every adult if it were willing to devote the necessary attention and resources to this end. (P. 24)

The ability of the older worker to contribute has been documented in a variety of ways. Studies focusing on output per manhour (Kelleher and Quirk, 1973), ratings by supervisors (Arvey and Mussio, 1973), work satisfaction (Siassi, et al, 1975), and tenure (O'Boyle, 1970), reinforce the conclusion reached by the National Committee on Aging as reported by Mathiason (1959) that the older worker can be regarded as an asset rather than a liability to industry.

**Benefit to Older Persons**

Work provides both a source of income and a major source of need satisfaction. Work is a source of status and prestige, allows for the achievement of personal independence, provides social contacts and takes up time (Good-
stein, 1962). Work, as an alternative to retirement, contributes to a better income for older persons which relates to a higher subjective well-being or life satisfaction and better mental and physical health. Botwinick (1973) in his book Aging and Behavior, points out that:

Retirement is difficult for so many people. Work means so much more than the process itself. People, particularly men, are often described not so much as who they are, or what kind of people they are, but by what they do for a living. (p. 63)

In a recent, extensive review of research on the subjective well-being of older Americans, Larson (1978) found a slight positive association between employment and well-being in general populations of older persons. He concluded that employment accounts for about 1% of the variance in "well-being" for older persons. In a national probability sample of men (Thompson, 1973) and women (Jaslow, 1976), a slight positive correlation was found for employment and life satisfaction after controlling for income, health and physical disability. Streib and Schneider (1971) report no clear differences in morale before and after retirement for men and women, while Thompson et al (1960) found that forced retirees did experience a lesser sense of well-being.

Riley and Foner (1969) attributed only part of the greater overall satisfaction with life among older persons
who were still working to the fact that they were healthier, better adjusted and more advantaged. Butler (1972) reminds us that employment continues to be an important factor in income and health maintenance of older persons.

For the older population, work offers a way of meeting both physical and psychological needs. Older persons who are working appear to be somewhat better off than those who are not working.

**Race, Sex and Age**

The variables of race, sex and age, which are factors determined by birth, are seen to have institutional significance in our society in terms of perceived social status, worker role and opportunity in labor market participation. Traditionally, more men than women have been in the labor market with whites holding higher status jobs. While there appears to be little or no difference in employment per se as to race in the older population, the influence of sex and age are evident in labor market participation statistics and future projections. Labor force participation drops sharply between the ages of 60 and 64 for both men and women so that of persons aged 65 and over in 1975, only 21.7% of all men and 8.2% of all women were still in the labor force (United States Department of Labor, 1976). Further, these figures represent a drop of approximately 20% for men and 15% for women when
compared with 1970 statistics. The United States Department of Labor (1976) predicts a gradual decline of these percentages to only 16.8% for men and 7.6% for women in 1990 (See Table 1).

Focusing on specific age groupings in the over age 65 population, we find that 31.7% of the men and 14.4% of the women between the ages of 65 and 69 were actually in the labor force in 1975. In the older age groupings, the statistics drop significantly.

In a study of labor force participation in Illinois (Meier, 1975), it was determined that more than 90% of the men and more than half of the women were working in the age group between 45 and 59. Following the national trend, in the 60 to 64 age group, this dropped sharply. After age 65, this drop becomes even more evident with only one-fifth of the women and two-fifths of the men working.

It is important to note, though, that while full-time participation declines, part-time participation increases. Women in their forties, fifties and sixties are more likely than men to be working part-time. After age 65, part-time employment becomes even more important with part-time workers accounting for more than two-fifths of the working women over 65 and the working men over 70.
Table 1

Labor Force Participation of Aged Persons in the United States

<table>
<thead>
<tr>
<th></th>
<th>1970</th>
<th>1975</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Men</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>65 years and over</td>
<td>26.9</td>
<td>21.7</td>
</tr>
<tr>
<td>65-69 years</td>
<td>41.8</td>
<td>31.7</td>
</tr>
<tr>
<td>70 years and over</td>
<td>17.8</td>
<td>15.1</td>
</tr>
<tr>
<td><strong>Women</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>65 years and over</td>
<td>9.6</td>
<td>8.2</td>
</tr>
<tr>
<td>65-69 years</td>
<td>16.9</td>
<td>14.4</td>
</tr>
<tr>
<td>70 years and over</td>
<td>5.7</td>
<td>4.8</td>
</tr>
</tbody>
</table>

In the older population, men are more likely than women to be working and increased age is negatively associated with working, particularly for men.

**Education**

The level of education attained by the older person is affected by race, sex and age, and it, in turn, affects work orientation in the older population.

Based on 1970 census data (United States Bureau of Census, 1973), the highest educational level for persons over 65 was attained by white women in the 65 to 69 age group; the lowest by black men aged 75 and over (See Table 2). Generally, the older the individual, the less education the person will have. Cowgill (1975) points out that, according to 1970 census data, while:

...more than half of all adults in the United States have completed high school, most of the population 65 and over have no more than 8 years of formal education. (p. 86)

In 1970, in Illinois, 7.1% of all men and 5.2% of all women over 65 had completed college while only 4.5% of men and 3.2% of women aged 75 and over had done so (Meier, 1975). College graduates are more likely to be working than those with less education. Jaffe (1978) concludes that educational level may be far more important than age in predicting labor force participation. He found
Table 2

Educational Comparison of Black and White Aged in the U.S., 1970

<table>
<thead>
<tr>
<th></th>
<th>Median number of years of education</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Black</td>
</tr>
<tr>
<td>Female 65-69 years</td>
<td>7.0</td>
</tr>
<tr>
<td>70-74 years</td>
<td>6.7</td>
</tr>
<tr>
<td>Over age 75</td>
<td>6.1</td>
</tr>
<tr>
<td>Male 65-69 years</td>
<td>6.0</td>
</tr>
<tr>
<td>70-74 years</td>
<td>5.6</td>
</tr>
<tr>
<td>Over age 75</td>
<td>5.1</td>
</tr>
</tbody>
</table>

that decreases in labor force participation related to age were more pronounced for men who had not completed high school. Decreases were somewhat less for those who had only a high school education and tended to be the least for college graduates.

On the other hand, while a higher level of education may influence labor market participation, the Louis Harris study (1976) concluded that desire to work was inversely related to level of education. Fewer college graduates (20%) wished to work compared to those with high school or less (35%) or high school graduates (27%).

Thus, it appears that the role of education is interactive with other variables as it pertains to labor market participation after retirement with the general trend being that persons with higher levels of education are more likely to be able to actually get jobs, but that those who have a high school education or less are more likely to desire employment.

**Perceived Work Competence and Health Status**

That the older worker has an advantage over the non-worker in terms of health and well-being has been well documented (Botwinick, 1973; Butler, 1972; Jaslow, 1976 and Riley and Foner, 1969). The relationship between perceived competence as a worker or perceived health status
and the propensity to work or seek employment on the part of the older person has had relatively little attention.

Jaslow (1976) in his work based on a national probability sample found that many older workers, who reported some degree of functional disability or who were relatively incapacitated, perceived their health very positively. Perception appears to play an important part in actual participation in the labor market and, while Botwinick (1973) concludes that "...it may well be that it is the healthier people who work" (p. 30), it is important to note that work itself, by contributing to income and providing ongoing activity, tends to be an important factor in health maintenance of older persons (Butler, 1972).

Bartlett (1978) in presenting the older job seeker points out that "...the most significant obstacle to older persons seeking jobs is their possessing a low self concept of their values and worth" (p. 159). White (1966) defines the person's sense of competence as:

...level of confidence, based on experience, that he can deal satisfactorily with circumstances likely to arise, with himself, and with the people who make up his social environment. (p. 360)

Thus, it may be that the older worker, by virtue of the fact that he is daily validating his ability to deal satisfactorily with circumstances, feels a higher level
Locus of Control

Locus of control involves both a person's reality orientation regarding the amount of control that they can actually exercise over outcomes as well as a generalized, relatively persistent, personality trait pertaining to personal control over outcomes. It reflects, in terms of Rotter's (1966) social learning theory, the degree to which an individual perceives success as a result of personal initiative. Those who perceive effort to be largely instrumental in attaining success would be highly internal. Those who perceive success as completely unrelated to ability and effort, and thus ascribe little or no value to initiative, would be highly external. The construct, as a generalized expectancy, would relate to whether or not the individual possesses or lacks a sense of power or personal choice over what might happen to him (Rotter, Chance & Phares, 1972).

Locus of control can be seen as both a contributing factor (independent variable) or as an outcome (dependent variable) in terms of the work experience. Lefcourt (1976), in his extensive review of locus of control research, states that:

People change in their customary causal attributions
if they encounter experiences that meaningfully alter the contingencies between their acts and perceived outcomes. (p. 126)

Andrisani and Nestel (1975) note that, although there is extensive internal-external locus of control literature:

...research efforts have hardly begun to explore systematically the role of internal-external control as either a contributor or an outcome in the dynamics of work experience. (p. 199)

In organizing a review of the literature pertaining to locus of control and the older population, it seems appropriate to consider previous research in that light. Therefore, this review will first consider the general concept of locus of control as first a contributing factor and second as an outcome in research with older persons will be covered. Finally, research which considers the independent-dependent concept of control will be reviewed.

Work Experience

The concept of internal versus external control appears to be particularly appropriate in considering factors which contribute directly or indirectly to post-retirement employment. The stereotypical view of the higher work ethic of the older population would lead one to speculate that the decision to seek employment after retirement may be the result of the interaction of this "ethic" with locus of control and other pertinent factors.

The internal's belief that success results from hard
work and that failure is an individual responsibility is an integral part of this work ethic. Thus, as Bradley and Webb (1976) suggest, the highly internal older person may find the realities of diminished control related to aging more damaging to self worth than others. Productive activities, they feel, would afford the internally oriented individual with the opportunity to bring reality back in line with personality. It might further be suggested that individual differences in internal-external control would reflect varying degrees of commitment to productivity and the work ethic.

Lefcourt (1976) suggests that:

...locus of control can be viewed as a mediator of involved commitment in life pursuits. If one feels helpless to effect important events, then resignation, or at least benign indifference, should become evident with fewer signs of concern, involvement and vitality. (p. 152)

Further, it would seem logical, as Rotter and Hochreich propose (1975), that the belief that one's own efforts can produce change is an important factor in getting people to better their lives, and thus, it is possible to argue by analogy that internal-external attitudes have an important effect on socioeconomic attainment. The literature on internal-external locus of control contains strong evidence that perceived efficacy in relation to one's environment (i.e., an internal attitude) reflects a propensity to in-
fluence that environment, and is a mark of initiative and competence.

**Locus of Control as a Contributing Factor**

As a contributing factor, locus of control in the older population is seen as influencing such diverse factors as attitude towards life (Baker, 1977) and retirement (Lowenthal and Pierce, 1975); life satisfaction (Palmore and Luikart, 1972; Wolk and Kurtz, 1975); and labor market success (Andrisani and Nestel, 1975; Rotter, 1966); coping ability (Kuypers, 1973); adjustment to situational constraints (Felton and Kahana, 1974; Wolk, 1976); and the older person's perception of self in terms of relative age (Linn and Hunter, 1979).

Lowenthal and Pierce (1975) in their studies of transitional life stages found that the sense of control in the pre-retirement stage was related to having a positive attitude toward the forthcoming retirement and to the tendency to have done planning for that retirement. They found that about one-fifth of the men in the pre-retirement group were planning second careers.

In surveying a sample of 92 older persons solicited on a volunteer basis, Wolk and Kurtz (1976) found a strong relationship between internal control and positive life
satisfaction. They conclude that either this result may be characteristic of the internal individual or that internal control may be a product of the particular life style of the sample.

Andrisani and Nestel (1975) in an analysis of the results of a national longitudinal study of over 5,000 older workers, state that, in terms of whites, the data:

...suggests that internals are in better occupations, that they attain greater status, earn more money, and tend to be more highly satisfied with their work than comparable externals. (p. 211)

This tends to confirm Rotter's (1966) earlier report that:

A series of studies provides strong support for the hypothesis that the individual who has a strong belief that he can control his own destiny is likely to: (a) be more alert to those aspects of the environment which provide useful information for his future behavior; (b) take steps to improve his environmental condition; (c) place greater value on skill or achievement reinforcements and be generally more concerned with his ability particularly his failures; and (d) be resistive to subtle attempts to influence him. (p. 25)

Kuypers (1971) demonstrated that positive coping styles tend to be more characteristic of internals and that internals are generally less defensive. Conversely, Felton and Kahana (1974) and Wolk (1976) found that positive adjustment in institutional settings was related to being more externally oriented.

Finally, Linn and Hunter (1979), in a randomly sel-
lected sample of 150 persons residing in two housing projects for the elderly, found that persons who were more internal tended to see themselves as younger than their age.

By and large, persons with higher internal control fare better in that they evidence a higher life satisfaction, greater success, a more positive attitude towards life and retirement, see themselves as relatively younger and are better able to cope. In constrained environments or institutional settings, though, the more external individual is at an advantage in that this person is apparently better able to adjust to the situational constraints.

Locus of Control as an Outcome

Age or maturity (Bradley and Webb, 1976; Milgram, 1971; Penk, 1969), life events or experiences (Harvey, 1971; Lefcourt, 1976; Smith, 1970), health status or disability (Levinson, 1975; Linn and Hunter, 1979) all appear to influence internal-external control.

The studies related to age or maturity and locus of control are confounded by the lack of consistent, repeated studies utilizing identical measurements and similar procedures. Results are not dissimilar to other individual characteristic studies of older persons such as those related to intelligence (Kuhlen, 1968).
In studies confined to children, Milgram (1971) and Penk (1969) found a general tendency for internality to increase with maturation. In a cross-sectional cohort study of 306 persons ranging in age from 13 to 90, Bradley and Webb (1976) found that the older cohorts (ages 65 and above) were more external than those in the younger groups. Wolk and Kurtz (1975), on the other hand, found that their voluntary sample of 92 older persons scored fairly low scores ($X = 8.22$) on the Rotter Locus of Control Scale, indicating more internality. In a national longitudinal study, an abbreviated form of the Rotter was administered at a five year interval to over 5,000 males ranging in age from 45 to 49 at the time of first testing. Reporting on this study, Andrisani and Nestel (1975) noted little change in locus of control for the population as a whole.

While life events and experiences may well be mediated by the individual's internal-external control, various studies have related significant life events and experiences to changes or shifts in locus of control. Lefcourt (1976) concludes that generally "perceived control is positively associated with access to opportunity" (p. 25), but also adds that perceived control "makes a considerable difference in the ways that many life experiences will be confronted" (p. 141). In a study of upper echelon government employees, Harvey (1971) found that the longer a person
had held that administrative position, the more internal he scored on the Rotter. Smith (1970) found evidence of locus of control shifts in a number of clients who used a crisis intervention program at a neuropsychiatric center.

Self rated health was found to be a highly significant factor in locus of control among persons over 64 years of age in a correlational study reported by Levinson (1975). Linn and Hunter (1979), in their study of persons age 64 and over found that the presence of a disability or impairment was correlated with a more external orientation.

While the issue of age or maturity and locus of control is not clearly determined, various life events and opportunities as well as present well-being appear to effect locus of control in the older population.

**Independent-Dependent Concept of Control**

The interacting effect of perceived control may best be characterized by the idiomatic phrase "Them that has, gets". Andrisani and Nestel (1974) report association between internal control and work satisfaction, money and status. Internality as a product of access to opportunity (Lefcourt, 1976) may be related to higher status jobs and the concomitant work satisfaction and financial renumeration which may contribute to increased internality (Harvey, 1971).
In summarizing their findings, Andrisani and Nestel (1975) suggest that:

...opportunities for success, and success itself, are effective means for raising initiative to succeed, and that the somewhat more external outlooks of the poor may reflect unfulfilled expectations and lower returns to initiative, rather than - or as well as - a lack of initiative. (p. 221)

Thus, locus of control can be seen as a contributing factor as it relates to attitude, satisfaction, adjustment and self-perception. Further, it can be seen as a result of life events, opportunity and health status. It's position as both an independent and dependent variable as it relates to the work orientation of the older person is related to both opportunity for success and success itself.

Perceived Financial Adequacy

The question of financial adequacy in retirement is of major concern to the older population and exerts considerable short-term and long-term effect on the life style and direction of the older individual. Bild and Havighurst (1976) in a report on senior citizens in Chicago, conclude that income is the single most important factor in terms of well-being. Inadequate income, accordingly, has a negative effect on a person's well-being:

An adequate income is the single most important determinant of the well-being of persons at any stage of the life cycle, but it is particularly critical for the elderly. Money opens or closes doors to so many other things. But retirement and widowhood bring a
reduction in income. (p. 28)

In Illinois, persons over age 65 evidence poverty rates which are double that of persons 45 to 64 years of age. In a pamphlet prepared for the Illinois Department on Aging (1976), the Center for Advanced Study, University of Illinois reports that:

Older persons who work have higher incomes than those who do not work, the combination of social security, public assistance and other income is often not enough to keep them out of poverty...Even though many older persons are interested in working, few of them actually look for work because of the difficulties in finding employment. (P. 12)

In looking at the events of retirement and job loss resulting in retirement, Dressler (1962) concluded that these events were not major stress factors except in terms of the economic loss to the individual. The Louis Harris study (1974) determined that employment after age 65 accounted for a source of income for about 20% of the older population. Of those desiring work, the study found that income was an important factor with lower income people showing more desire to work. On the other hand, the study found that about 50% of the applicants actually had incomes of over $10,000 a year and that, for those working, employment represented a major source of income for only 4% of the women and 7% of the men.

A survey of older persons seeking work by the Senior
Personnel Employment Committee of White Plains, New York in 1976, found that 88% of them gave needed income as the reason for seeking work, while 12% were seeking work because they like to keep busy. One half of the men reported that their income without work was only enough to meet basic needs, with an average post-retirement income of $6,500. The other half reported adequate retirement incomes averaging about $9,900.

As a single factor, perceived financial adequacy appears to have an overriding influence on the older person's determination to seek employment. Income adequacy is related to well-being and persons with lower incomes are more likely to seek employment.

Recapitulation

While there has not been extensive research related to post-retirement employment, the general consensus of existing literature is that many older persons do want the option of employment, that older persons have both the right to employment and something to contribute in the world of work, and that work is beneficial to older persons both in terms of the financial benefits and the social-psychological benefits it affords. The older worker or job seeker is generally somewhat younger than the older population as a whole and wishes to work on a reduced time basis. Older persons who are working are apt to be somewhat better off
than those who are not.

Labor market participation of older persons declines with age. More men than women are likely to be working at an older age.

While the desire to work is probably seen more in those persons with lower levels of education, actual employment is positively associated with a higher level of education as is a younger age.

Older workers are generally in better health and have a higher level of life satisfaction than non-workers. Older job seekers may be hampered by a decreased sense of self-worth and competence.

No research related to post-retirement work orientation and internal-external locus of control was found. Further, neither the independent-dependent characteristic of the locus of control construct and work orientation nor locus of control in the aging population has been widely nor systematically researched. However, locus of control research concerning work orientation which does exist, when examined in relationship to research concerning locus of control and the older population, provides several clues which lead to tentative conclusions concerning possible outcomes in this area. Locus of control, in terms of work
orientation is both a product of and a contributor to success. A higher internal control is positively associated with a higher life satisfaction, greater success, a more positive attitude towards life and retirement, a more positive coping style and a perception of self as younger. Access to opportunity, better health and administrative jobs are seen as contributing to a higher internal control. Older individuals who have a higher sense of internal control in the face of the diminishing aspects of aging and may see some form of employment as a means for maintaining a portion of that control.

Perceived financial status appears to exert considerable influence on the decision to seek employment whether actual income is adequate or not. It appears that this factor may account for the larger portion of the variance between older persons who seek employment and those who do not.

The decision to seek employment on the part of the post-retiree is influenced by a number of internal and external factors. Many of these factors appear to be directly related to each other. Age and sex influence the propensity to be working as well as the level of education attained, perceived competence and possibly locus of control. Level of education, in turn, appears to influence work
status, perceived competence and, if seen as "access to opportunity", locus of control. Perceived competence influences and is influenced by work status. Locus of control may influence work status and perceived financial need directly relates to the need for employment.

The fact that there has been no documented research concerning work orientation and locus of control in the older population coupled with the lack of substantive research on post-retirement employment further supports the importance of this study, particularly in the face of the apparent growing interest and concern for post-retirement life style and the ever increasing older population.
CHAPTER III

METHOD

This research is directed toward determining the relative influence of selected variables on the older person's self determination to seek employment following formal retirement. Chapter II review the related literature. This chapter describes the method used to accomplish the purpose of the study.

Sample

The participants in this study consisted of volunteers living in the metropolitan Chicago area who were 62 years of age and older and identified as generally active.

The metropolitan Chicago area represents approximately 64% of the total population of the state of Illinois and about 58% of the over 60 population (State of Illinois, Bureau of the Budget, 1978). Almost three-fifths (59%) of this population is female. There are numerous opportunities for older persons to seek placement assistance in this area both in subsidized and unsubsidized employment. Programs include cooperative efforts between governmental, private and public agencies with several options designed to meet both the needs of the employer and the older job appli-
cant (City of Chicago, MOSC/H, 1977).

The data needed for this study was collected from 153 older persons in the metropolitan Chicago area who volunteered to participate in the study. Volunteers were solicited from groups of older persons who were identified as actively involved in social, leisure or work activities and not home-bound or institutionalized. The data collection was conducted in the spring of 1979, from March 1 through June 20, using three sample resources for data collection as follows:

1. During the 1979 spring semester, six graduate students enrolled in a course entitled "Counseling the Elderly" (Guidance 435) at Loyola University of Chicago, School of Education were asked to solicit volunteers from among family members, senior citizen groups and agencies working with older persons. They were asked to seek volunteers only from among active, non-institutionalized older persons. They were responsible for 96 of the completed surveys.

2. A graduate student at Northern Illinois University in DeKalb, Illinois, solicited volunteers from a senior social club in the western suburbs of Chicago. She was also instructed to seek volunteers only from active, non-institutionalized older persons. She gathered 23 surveys.
3. The remaining 34 surveys were gathered by staff members of the South Suburban Council on Aging, a multi-service agency for older persons in Harvey, Illinois. Volunteers were solicited from among clients seeking job counseling and placement assistance. This agency provides several modalities of placement services for older persons as described by Kjos and Donohue (1979).

In all cases, volunteers were assured that participation in the study was not a prerequisite for any services they were seeking and that all responses would be held confidential. Of the 153 surveys collected, 5 were rejected; 2 for unclear responses and 3 because respondents did not meet the age criteria.

Characteristics of the Sample

A table summarizing the characteristics of the sample by the variables under study is presented in Chapter IV. Raw numbers and percentages for each major group and sub-group were tabulated. The means and standard deviations for age, level of education, work competence, health status, locus of control and financial status are summarized in the table. In addition, breakdown tables by work orientation, race and sex using age, education, work competence, health status, locus of control and financial adequacy are presented with one-way ANOVAS for the criterion variable.
These data are used to compare the three groups in the sample and to compare the sample to standard demographic information as presented in the review of the literature in Chapter II.

Procedures

The procedures used to accomplish the purpose of this study included the development of an instrument designed to measure the selected variables of race, sex, age, level of education, self-perceived work competence, self-perceived health status, locus of control and self-perceived financial adequacy, which were included in the causal model (See Appendix A). Data taken from the completed instruments were then analyzed to test their consistency to the explanatory scheme or causal model.

Instrumentation

The instrument used in this study contains two parts. The first part, covering demographic data and questions related to self-perceived work competence, self-perceived health status and financial adequacy, was developed specifically for this study. The second part is the 29 item Rotter Internal-External Locus of Control Scale (Rotter, 1966) with slight vocabulary changes.

Development of instrumentation. Specific items in the instrument were developed to reflect factors most com-
monly related to older person's seeking employment and being employed as reflected in the review of related literature. These included two statements related to self-perceived work competence, one asking for a rating of self in terms of relative ability and one asking for a rating of self as a worker. There are three statements dealing with perceived health or physical ability, one asking for a general relative rating, and two dealing with health related restrictions to activity. The use of self-perceived health status, relative ability and worker rating in the construct of work orientation is based on the review of the literature, particularly White's (1966) definition of competence and Jaslow's (1976) findings concerning self-perceived health status among older workers.

One statement concerning perceived financial adequacy using a scaled answer format was included. This was based on literature indicating that about 50% of those who sought employment for financial reasons had relatively good or adequate incomes when reported in actual dollar amounts (Louis Harris, 1974; Senior Personnel Employment Committee, 1976).

Other statements in this part included factors such as age, sex, race, level of education and present work status. In addition, four statements which are not included
in this study were included in the instrument; one dealing with marital status, one related to why a person might seek employment after retirement, and questions asking age of retirement and the title of the job retired from.

**Locus of control scale.** The Rotter Internal-External Locus of Control Scale (Rotter, 1966) consists of 23 question pairs, using a forced choice format, plus 6 filler questions. Internal statements are paired with external statements with one point given for each external statement chosen. Scores can range from zero (most internal) to 23 (most external). The scale is self-administered and has been most frequently used with college students. However, according to Robinson and Shaver (1973), no upper or lower age limits have been established. They also report that this scale has been used in more than 50% of the locus of control research with numerous reports of both reliability and validity documented. Other reviews, including Lefcourt (1976) and Rotter (1966) detail a number of studies. Rotter reports an internal consistency coefficient of .70 and a test-retest reliability coefficient of .72 for two groups after one month. In terms of validity, Robinson and Shaver (1973) conclude that:

> The literature does indicate that there are individual differences in perception about one's control over one's destiny and that the Rotter scale is sensitive to these differences. (p. 228)
For the purpose of this study, specific vocabulary changes were made in one item of the scale to reflect a more mature, less school oriented stance. This was in item 23 which was put in the past tense so that, for example, "grades they give" was changed to read "grades they gave". This item, as it was written, implied present school attendance.

Instrument pilot. While numerous validation studies have been done on the Rotter Internal-External Locus of Control Scale, it was deemed necessary to pre-test the portion of the instrument developed specifically for this study in conjunction with the Rotter scale. Therefore, 12 older persons (ranging in age from 63 to 73), who are employed on a part-time basis in an agency which serves the elderly, were asked to self-administer the instrument and to comment on items in terms of appropriateness, clarity and relevancy.

The primary change recommended by this group was in the introductory statement which had originally instructed subjects to complete the survey only if they were at least 65 years old. The panel unanimously felt that this was too high an age and that age 62 would be more appropriate. Their conclusion coincides with the age 62 eligibility for social security and is in keeping with the trend towards early retirement.
Design and Statistical Analysis

The data necessary for this study were taken from the surveys completed by the older persons participating in the study. Nine variables were identified for inclusion in the study; four exogenous variables, four endogenous variables and one independent variable. The four exogenous variables are (1) race, (2) age, (3) sex, and (4) self-perceived financial need which is used interchangeably with FIN. The four endogenous variables are (1) level of education which is used interchangeably with EDUC, (2) self-perceived work competence which is used interchangeably with COMP, (3) self-perceived health status which is used interchangeably with HEAL, and (4) external locus of control which is used interchangeably with LOC. The dependent variable is work orientation which is used interchangeably with WORK. The data were processed using the Statistical Package for the Social Sciences (SPSS).

Hypothesis testing - causal model. Because of the presumed sequencing and multiple effect of variables in this study, path analysis is employed as a pattern for interpretation of the data. Originally used in genetics research by Sewal Wright, path analysis is generally employed in ex post facto studies as an aid to determining the linear, additive and asymmetrical relationships of selected variables which are conceived as being measurable on an interval
As an extension of multiple regression analysis, path analysis provides a method for inferring direct or indirect causal relationships among a set of variables (Kerlinger and Pedhauser, 1973) but it cannot be considered a method for discovering causes nor does it purport to be (Duncan, 1966; Kim and Kahout, 1970).

Path coefficients are symbolically represented as $P_{ij}$ where the first subscript $i$ denotes the dependent variable and the second subscript $j$ denotes the variables whose influence are under consideration (Land, 1969). These path coefficients indicate the direct effect that a specific path has on the dependent variable under consideration when all other paths to that variable are satisfactorily controlled. Based on the assumptions that all causal links are unidirectional, it involves a priori assumptions that no reciprocal links or indirect feedback is involved in the sequence (Anderson, 1978).

In this study, hypothesis testing using path analysis is done in three steps: (1) computation of a correlation matrix; (2) computation of path coefficients; (3) determination of direct effect, indirect effect through an intervening variable and indeterminate or joint association
resulting from an unanalyzed correlation with other predictor variables (Alwin and Hauser, 1975).

This information is presented in a correlation matrix table, a path coefficient table, path analysis diagrams and a decomposition table indicating total association, direct effect, indirect effect, joint association and spurious association for each relationship. If the path coefficient between two variables is as high as the correlation, then the correlation is said to depict a direct causal relationship. On the other hand, if the path coefficient is considerably less than the correlation, the effect of the one variable on the other is considered to be indirect. Thus the correlation between these two variables may be seen as the result of their common relationship to a third variable (Harren et al, 1978).

**Modified causal model.** Based on the path coefficients, a modified or "trimmed" model is developed. This is done by deleting paths which do not indicate a direct influence. Land (1969) points out that "any decision to delete a postulated path must be based on a statistical test of significance or on an arbitrary criterion of size of the retained path" (p. 34). Thus, one could use, as is common (Kim and Kahout, 1975), ordinary F tests for individual regression coefficients or one can set a cri-
terion value below which paths would be deleted. Land further notes that this second alternative is preferable with "large samples" but that "Few general prescriptions can be made for the determination of the minimum size of a substantively meaningful path coefficient" (p. 35). In this study, a standard criterion (Harren et al, 1978; and Hunt and Hinkle, 1979) is employed whereby paths which fail to explain at least 1% of the variance (below an absolute value of .10) are deleted.

Summary

Data for this study were gathered from surveys completed by voluntary participants aged 62 and over who were solicited from groups and agencies in the metropolitan Chicago area. Surveys consisted of two parts, the first dealing with personal characteristics such as age, race, sex and educational level as well as self-perceived work competence, self-perceived health status and self-perceived financial adequacy. The rest of the survey consisted of Rotter's (1966) Internal-External Locus of Control Scale. The instrument was pretested with a group of 12 older working persons.

The data were analyzed for sample characteristics and a system of path analysis was utilized to test and modify the hypothesized causal model. The data and analysis
are presented in Chapter IV in three sections; (1) characteristics of the sample, (2) hypothesis testing and (3) a modified or "trimmed" causal model.
CHAPTER IV

RESULTS OF THE STUDY

This chapter presents an analysis of the data regarding the relative influence of the selected variables of race, sex, age, level of education, self-perceived work competence, self-perceived health status, locus of control, and self-perceived financial need on the older person's tendency to be employed or seek employment. This chapter is divided into three sections: (1) characteristics of the sample, (2) hypothesis testing, and (3) a modified or trimmed model.

Characteristics of the Sample

A summary of selected characteristics of the voluntary sample of persons aged 62 and over is presented in Table 3. The mean age of the sample was almost 70. This is in the middle range of the "young-old" as defined by Bernice Neugarten (1975). The group was overwhelmingly white with only five non-whites of the 145 respondents who indicated race. Almost two-thirds (65.5%) were female and the majority of the participants had completed high school with almost one-half having some college or post-secondary education.

Levels of self-perceived competence and health status
Table 3

Characteristics of the Sample

(N = 148)

<table>
<thead>
<tr>
<th>Characteristic</th>
<th>N</th>
<th>%</th>
<th>Mean</th>
<th>St. Dev.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Age</td>
<td>144</td>
<td>97.30</td>
<td>69.73</td>
<td>5.80</td>
</tr>
<tr>
<td>Race</td>
<td>145</td>
<td>97.97</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Other</td>
<td>5</td>
<td>3.38</td>
<td></td>
<td></td>
</tr>
<tr>
<td>White</td>
<td>140</td>
<td>94.59</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Sex</td>
<td>148</td>
<td>100.00</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Male</td>
<td>51</td>
<td>34.46</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Female</td>
<td>97</td>
<td>65.54</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Education (Scale of 0 to 6)</td>
<td>145</td>
<td>97.97</td>
<td>3.19</td>
<td>1.44</td>
</tr>
<tr>
<td>Some Elementary</td>
<td>8</td>
<td>5.41</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Elementary</td>
<td>13</td>
<td>8.78</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Some Secondary</td>
<td>19</td>
<td>12.83</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Secondary</td>
<td>33</td>
<td>22.30</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Some College¹</td>
<td>55</td>
<td>37.16</td>
<td></td>
<td></td>
</tr>
<tr>
<td>College Degree</td>
<td>9</td>
<td>6.08</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Advanced Degree</td>
<td>8</td>
<td>5.41</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

¹Includes Trade School
<table>
<thead>
<tr>
<th>Characteristic</th>
<th>N</th>
<th>%</th>
<th>Mean</th>
<th>St. Dev.</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Work Competence</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><em>(Scale of 0 to 4)</em></td>
<td>141</td>
<td>95.27</td>
<td>2.81</td>
<td>0.88</td>
</tr>
<tr>
<td><strong>Health Status</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><em>(Scale of 0 to 4)</em></td>
<td>144</td>
<td>97.30</td>
<td>2.76</td>
<td>1.14</td>
</tr>
<tr>
<td><strong>Locus of Control</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><em>(Scale of 0 to 23)</em></td>
<td>132</td>
<td>89.19</td>
<td>7.95</td>
<td>3.95</td>
</tr>
<tr>
<td><strong>Financial Status</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><em>More than enough</em></td>
<td>15</td>
<td>10.13</td>
<td></td>
<td></td>
</tr>
<tr>
<td><em>Enough</em></td>
<td>68</td>
<td>45.59</td>
<td></td>
<td></td>
</tr>
<tr>
<td><em>Need</em></td>
<td>48</td>
<td>32.43</td>
<td></td>
<td></td>
</tr>
<tr>
<td><em>High need</em></td>
<td>14</td>
<td>9.46</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Work Orientation</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><em>Working</em></td>
<td>43</td>
<td>29.05</td>
<td></td>
<td></td>
</tr>
<tr>
<td><em>Not working, looking</em></td>
<td>19</td>
<td>12.84</td>
<td></td>
<td></td>
</tr>
<tr>
<td><em>Not working or looking</em></td>
<td>73</td>
<td>49.33</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
were about equal, with a somewhat higher variance for health status. By and large, the group tended to see themselves more positively than negatively in terms of competence and health. The group evidenced fairly low scores on the Rotter (1966) Internal-External Locus of Control Scale, indicating a relatively high level of internal locus of control.

Over half of the sample reported that they had adequate or more than adequate financial resources and less than 10% reported a high financial need. About one-half of the sample were not working or looking for work.

Sample characteristics were further examined using the SPSS subprogram BREAKDOWN with age, education, competence, health, locus of control and financial need as dependent variables and work orientation as the independent variable.

Work and Age

The average age for each of the three work groups is given in Table 4 with data for both males and females in each subgroup. Those persons not working and not looking for work were somewhat older than the working or not looking for work subgroups. Age differences between the three groups yielded a significant F ratio (p < .01) in a one-way analysis of variance (See Appendix Table A). There
Table 4
Average Age of the Sample by Work Orientation and Sex

<table>
<thead>
<tr>
<th>Variable</th>
<th>N</th>
<th>Average Age</th>
<th>St. Dev.</th>
</tr>
</thead>
<tbody>
<tr>
<td>For Entire Group</td>
<td>130</td>
<td>69.88</td>
<td>6.02</td>
</tr>
<tr>
<td>Working</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Males</td>
<td>18</td>
<td>67.78</td>
<td></td>
</tr>
<tr>
<td>Females</td>
<td>24</td>
<td>68.00</td>
<td></td>
</tr>
<tr>
<td>Not Working, Looking for Work</td>
<td>19</td>
<td>67.32</td>
<td>5.28</td>
</tr>
<tr>
<td>Males</td>
<td>8</td>
<td>67.50</td>
<td>4.28</td>
</tr>
<tr>
<td>Females</td>
<td>11</td>
<td>67.18</td>
<td>6.11</td>
</tr>
<tr>
<td>Not Working or Looking for Work</td>
<td>69</td>
<td>71.88</td>
<td>6.48</td>
</tr>
<tr>
<td>Males</td>
<td>19</td>
<td>72.47</td>
<td></td>
</tr>
<tr>
<td>Females</td>
<td>50</td>
<td>71.66</td>
<td></td>
</tr>
</tbody>
</table>
appears to be no real difference in age based on sex.

**Work and Level of Education**

The level of education for those working tended to be somewhat higher than for the other two subgroups (See Table 5), but not significantly so (See Appendix Table B). Based on the review of the literature, it was expected that the working subgroup would have the highest level of education, with the group looking for work having the lowest level of education. This expectation was not met. The expectation for women to have a higher educational level than men was also not met.

**Work and Self-Perceived Work Competence**

Those who were working tended to see themselves as more competent than members of either of the other two subgroups. Those not working and not looking for work saw themselves as considerably less competent than their work oriented cohorts (See Table 6). This difference was found to be statistically significant beyond the .01 level (See Appendix Table C). Those men working and those looking for work tended to see themselves somewhat more positively on this variable than their female counterparts.

**Work and Self-Perceived Health Status**

As predicted by the literature, those older persons
Table 5
Average Level of Education of the Sample by Work Orientation and Sex

<table>
<thead>
<tr>
<th>Variable</th>
<th>N</th>
<th>Average EDUC</th>
<th>St. Dev.</th>
</tr>
</thead>
<tbody>
<tr>
<td>For Entire Group</td>
<td>131</td>
<td>3.15</td>
<td>1.45</td>
</tr>
<tr>
<td>Working</td>
<td></td>
<td>3.43</td>
<td>1.52</td>
</tr>
<tr>
<td>Males</td>
<td>17</td>
<td>3.44</td>
<td></td>
</tr>
<tr>
<td>Females</td>
<td>25</td>
<td>3.80</td>
<td></td>
</tr>
<tr>
<td>Not Working, Looking for Work</td>
<td>18</td>
<td>3.11</td>
<td>1.32</td>
</tr>
<tr>
<td>Males</td>
<td>8</td>
<td>3.25</td>
<td></td>
</tr>
<tr>
<td>Females</td>
<td>10</td>
<td>3.00</td>
<td></td>
</tr>
<tr>
<td>Not Working or Looking for Work</td>
<td>71</td>
<td>3.00</td>
<td>1.43</td>
</tr>
<tr>
<td>Males</td>
<td>19</td>
<td>3.63</td>
<td></td>
</tr>
<tr>
<td>Females</td>
<td>52</td>
<td>3.49</td>
<td></td>
</tr>
</tbody>
</table>

Note. "Completed elementary" = 1, "completed high school" = 3, and "college degree" = 5.
Table 6
Average Level of Self-perceived Work Competence of the Sample
Broken Down by Work Orientation and Sex

<table>
<thead>
<tr>
<th>Variable</th>
<th>N</th>
<th>Average COMP</th>
<th>St. Dev</th>
</tr>
</thead>
<tbody>
<tr>
<td>For Entire Group</td>
<td>128</td>
<td>2.82</td>
<td>.86</td>
</tr>
<tr>
<td>Working</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Males</td>
<td>18</td>
<td>3.27</td>
<td></td>
</tr>
<tr>
<td>Females</td>
<td>25</td>
<td>3.16</td>
<td></td>
</tr>
<tr>
<td>Not Working, Looking for Work</td>
<td>17</td>
<td>3.00</td>
<td>1.00</td>
</tr>
<tr>
<td>Males</td>
<td>8</td>
<td>3.13</td>
<td></td>
</tr>
<tr>
<td>Females</td>
<td>9</td>
<td>2.89</td>
<td></td>
</tr>
<tr>
<td>Not Working or Looking for Work</td>
<td>68</td>
<td>2.52</td>
<td>.76</td>
</tr>
<tr>
<td>Males</td>
<td>20</td>
<td>2.50</td>
<td></td>
</tr>
<tr>
<td>Females</td>
<td>48</td>
<td>2.54</td>
<td></td>
</tr>
</tbody>
</table>

Note. On a scale of 0 to 4 where 4 indicates the highest level of perceived competence.
who were working saw themselves as generally healthier than those who were not working and not looking for work (See Table 7). Of interest is the fact that those who reported that they were looking for work had the highest self-perceived health status. The work-seeking women judged their health somewhat more positively than the work-seeking men. The difference in health status based on work orientation was found to be statistically significant beyond the .01 level (See Appendix Table D).

Work and locus of Control

Based on the literature, it was expected that those working and those looking for work would tend to have a more internal locus of control than those not working and not looking for work. While this held true (See Table 8), the differences were not great enough to be statistically significant (See Appendix Table E). The relative internality of the sample is consistent with the findings of Wolk and Kurtz (1975) who also utilized a voluntary sample.

Work and Level of Financial Need

The working subgroup tended to have the highest level of financial need, with women indicating a higher level of need than men (See Table 9). The differences in financial need between the three groups was statistically significant beyond the .01 level (See Appendix Table F), showing the
Table 7
Average Level of Self-perceived Health Status of the Sample
Broken Down by Work Orientation and Sex

<table>
<thead>
<tr>
<th>Variable</th>
<th>N</th>
<th>Average HEAL</th>
<th>St. Dev.</th>
</tr>
</thead>
<tbody>
<tr>
<td>For Entire Group</td>
<td>131</td>
<td>2.70</td>
<td>1.17</td>
</tr>
<tr>
<td>Working</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Males</td>
<td>42</td>
<td>3.00</td>
<td>.88</td>
</tr>
<tr>
<td>Females</td>
<td>42</td>
<td>3.00</td>
<td></td>
</tr>
<tr>
<td>Not Working, Looking for Work</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Males</td>
<td>18</td>
<td>3.00</td>
<td>.92</td>
</tr>
<tr>
<td>Females</td>
<td>24</td>
<td>3.00</td>
<td></td>
</tr>
<tr>
<td>Not Working or Looking for Work</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Males</td>
<td>8</td>
<td>3.00</td>
<td></td>
</tr>
<tr>
<td>Females</td>
<td>10</td>
<td>3.80</td>
<td></td>
</tr>
<tr>
<td>Not Working or Looking for Work</td>
<td></td>
<td></td>
<td>1.24</td>
</tr>
<tr>
<td>Males</td>
<td>19</td>
<td>2.63</td>
<td></td>
</tr>
<tr>
<td>Females</td>
<td>52</td>
<td>2.23</td>
<td></td>
</tr>
</tbody>
</table>

Note. Based on a scale of 0 to 4 where 4 is the most positive perceived health status.
Table 8

Average Score on the Rotter Internal External Locus of Control Scale
Broken Down by Work Orientation and Sex

<table>
<thead>
<tr>
<th>Variable</th>
<th>N</th>
<th>Average LOC</th>
<th>St. Dev.</th>
</tr>
</thead>
<tbody>
<tr>
<td>For Entire Group</td>
<td>119</td>
<td>7.85</td>
<td>4.00</td>
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<tr>
<td>Working</td>
<td>39</td>
<td>7.36</td>
<td>3.78</td>
</tr>
<tr>
<td>Males</td>
<td>17</td>
<td>7.41</td>
<td></td>
</tr>
<tr>
<td>Females</td>
<td>22</td>
<td>7.32</td>
<td></td>
</tr>
<tr>
<td>Not Working, Looking for Work</td>
<td>17</td>
<td>6.88</td>
<td>4.43</td>
</tr>
<tr>
<td>Males</td>
<td>7</td>
<td>7.14</td>
<td></td>
</tr>
<tr>
<td>Females</td>
<td>10</td>
<td>6.70</td>
<td></td>
</tr>
<tr>
<td>Not Working or Looking for Work</td>
<td>63</td>
<td>8.41</td>
<td></td>
</tr>
<tr>
<td>Males</td>
<td>18</td>
<td>7.39</td>
<td></td>
</tr>
<tr>
<td>Females</td>
<td>45</td>
<td>8.82</td>
<td></td>
</tr>
</tbody>
</table>
Table 9
Average Level of Self-perceived Financial Need of the Sample
Broken Down by Work Orientation and Sex

<table>
<thead>
<tr>
<th>Variable</th>
<th>N</th>
<th>Average FIN</th>
<th>St. Dev.</th>
</tr>
</thead>
<tbody>
<tr>
<td>For Entire Group</td>
<td>132</td>
<td>1.51</td>
<td>.75</td>
</tr>
<tr>
<td>Working</td>
<td>43</td>
<td>1.88</td>
<td>.79</td>
</tr>
<tr>
<td>Males</td>
<td>18</td>
<td>1.56</td>
<td></td>
</tr>
<tr>
<td>Females</td>
<td>25</td>
<td>2.12</td>
<td></td>
</tr>
<tr>
<td>Not Working, Looking for Work</td>
<td>18</td>
<td>1.78</td>
<td></td>
</tr>
<tr>
<td>Males</td>
<td>8</td>
<td>1.63</td>
<td></td>
</tr>
<tr>
<td>Females</td>
<td>10</td>
<td>1.90</td>
<td></td>
</tr>
<tr>
<td>Not Working or Looking for Work</td>
<td>71</td>
<td>1.21</td>
<td>.63</td>
</tr>
<tr>
<td>Males</td>
<td>20</td>
<td>1.15</td>
<td></td>
</tr>
<tr>
<td>Females</td>
<td>51</td>
<td>1.24</td>
<td></td>
</tr>
</tbody>
</table>

Note. Based on a scale of 0 to 3 where 3 indicates the highest reported level of need.
highest $F$ ratio (14.8) of any of the variables. This is consistent with the literature which indicates that self-perceived financial need is highly related to seeking employment after retirement.

**Hypothesis Testing - Causal Model**

A path analysis approach employing the SPSS sub-program REGRESSION was used to test the causal model developed as the research hypothesis for this study.

The intercorrelation matrix indicating the correlation coefficient for each bivariant relationship in the study is given in Table 10. Table 11 shows the direct path coefficient (standardized regression coefficient) for each relationship. The full path model is shown in Figure 2 with the path coefficient (outside the parentheses) and the correlation coefficient (inside the parentheses) for each relationship. Where the correlation coefficient is larger than the path coefficient, we can assume that the higher correlation is a result of indirect effect or the common relationship of the variables in question with one or more additional variables. Indirect effects and non-causal effects for each of the relationships is shown in Table 12 (for specific contributions of each variable to the total effect of each path coefficient see Appendix Table G).
Table 10

Intercorrelation Matrix, Means and Standard Deviations for All Variables in the Study

<table>
<thead>
<tr>
<th></th>
<th>AGE</th>
<th>SEX</th>
<th>RACE</th>
<th>EDUC</th>
<th>COMP</th>
<th>HEAL</th>
<th>LOC</th>
<th>FIN</th>
<th>WORK</th>
</tr>
</thead>
<tbody>
<tr>
<td>AGE</td>
<td>1.00</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
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<td>RACE</td>
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<td>EDUC</td>
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<td>HEAL</td>
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<td>.12</td>
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<td>-.06</td>
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<tr>
<td>WORK</td>
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<td>.13</td>
<td>-.06</td>
<td>-.13</td>
<td>-.37</td>
<td>-.28</td>
<td>.13</td>
<td>-.41</td>
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<td>MEAN</td>
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<td>.95</td>
<td>3.19</td>
<td>2.82</td>
<td>2.76</td>
<td>7.95</td>
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<td>2.22</td>
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<td>.48</td>
<td>.21</td>
<td>1.44</td>
<td>.88</td>
<td>1.14</td>
<td>3.95</td>
<td>.75</td>
<td>.90</td>
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Note: MEAN and STD are the mean and standard deviation of the variables.
Table 11
Path Coefficients (Standardized Multiple Regression Coefficients) for All Variables in the Study

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<thead>
<tr>
<th></th>
<th>AGE</th>
<th>SEX</th>
<th>RACE</th>
<th>EDUC</th>
<th>COMP</th>
<th>HEAL</th>
<th>LOC</th>
<th>FIN</th>
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<td></td>
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<tr>
<td>RACE</td>
<td>-.08'</td>
<td>-.03'</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
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<td>.03</td>
<td>.07</td>
<td>.03</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>COMP</td>
<td>-.16*</td>
<td>-.08</td>
<td>.02</td>
<td>.14*</td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>HEAL</td>
<td>-.12*</td>
<td>-.09</td>
<td>.10*</td>
<td>.12*</td>
<td>.14*</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>LOC</td>
<td>.08</td>
<td>.06</td>
<td>-.10*</td>
<td>-.06</td>
<td>.05</td>
<td>-.09</td>
<td></td>
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<tr>
<td>WORK</td>
<td>.25*</td>
<td>.09</td>
<td>.01</td>
<td>-.08</td>
<td>-.29*</td>
<td>-.16*</td>
<td>.08</td>
<td>-.41'*</td>
</tr>
</tbody>
</table>

'Correlation coefficient
*Coefficient meets significance criteria of .10 or above.
Figure 2
Full Path Model

AGE

.03 (.03)

.08 (.09)

-.16* (.09)

.07 (.07) (.5)

-.16* (.09)

.08 (-.09)

-.08 (-.13)

.25* (.32)

.12* (.14)

-.12* (-.15)

EDUC

-.16* (.09)

.07 (.07) (.5)

-.16* (.09)

.08 (-.09)

-.08 (-.13)

-.06 (-.06)

-.29* (-.37)

-.10* (-.12)

COMP

.03 (.03)

.10* (.12)

.02 (.04)

.01 (-.06)

-.09 (-.09)

-.06 (-.06)

-.03

LOC

.08 (.13)

.09 (.13)

HEAL

-.09 (-.12)

-.16* (-.28)

-.41*

FIN

WORK

*Significant path coefficients
Correlation coefficients shown in parentheses.
Table 12
Decomposition Table for Hypothesized Path Model (Figure 2)
Showing the Total Covariance, Direct and Indirect Path Coefficients for Each Bivariate Relationship in the Path Model

<table>
<thead>
<tr>
<th>Bivariate relationship</th>
<th>Total covariance</th>
<th>Causal</th>
<th></th>
<th></th>
<th></th>
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<tr>
<td></td>
<td></td>
<td>Direct</td>
<td>+</td>
<td>Indirect</td>
<td>=</td>
<td>Total</td>
<td>Noncausal</td>
<td></td>
</tr>
<tr>
<td>EDUC/AGE</td>
<td>.025</td>
<td>.028</td>
<td>-.001</td>
<td>.027</td>
<td>-.002</td>
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<td></td>
<td></td>
</tr>
<tr>
<td>EDUC/SEX</td>
<td>.065</td>
<td>.066</td>
<td>-.003</td>
<td>.063</td>
<td>.002</td>
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<td></td>
<td></td>
</tr>
<tr>
<td>EDUC/RACE</td>
<td>.029</td>
<td>.033</td>
<td>-.006</td>
<td>.027</td>
<td>.002</td>
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</tr>
<tr>
<td>COMP/AGE</td>
<td>-.161</td>
<td>-.164</td>
<td>.004</td>
<td>-.160</td>
<td>-.001</td>
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<td></td>
<td></td>
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<tr>
<td>COMP/SEX</td>
<td>-.075</td>
<td>-.084</td>
<td>.008</td>
<td>-.076</td>
<td>.001</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>COMP/RACE</td>
<td>.038</td>
<td>.018</td>
<td>.015</td>
<td>.033</td>
<td>.005</td>
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<tr>
<td>COMP/EDUC</td>
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<td>.141</td>
<td>-.009</td>
<td>.132</td>
<td>.000</td>
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<tr>
<td>HEAL/AGE</td>
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<td>-.124</td>
<td>-.021</td>
<td>-.145</td>
<td>-.005</td>
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<tr>
<td>HEAL/SEX</td>
<td>-.092</td>
<td>-.088</td>
<td>-.010</td>
<td>-.098</td>
<td>.006</td>
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</tr>
<tr>
<td>HEAL/RACE</td>
<td>.122</td>
<td>.101</td>
<td>.018</td>
<td>.119</td>
<td>.003</td>
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Table 12 (Continued)

<table>
<thead>
<tr>
<th>Bivariate relationship</th>
<th>Total covariance</th>
<th>Causal</th>
<th></th>
<th></th>
</tr>
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<tr>
<td></td>
<td>Direct +</td>
<td></td>
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</tr>
<tr>
<td></td>
<td>Indirect</td>
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<td></td>
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</tr>
<tr>
<td></td>
<td>Total</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Noncausal</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>HEAL/EDUC</td>
<td>.137</td>
<td>.125</td>
<td>.011</td>
<td>.136</td>
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<td>HEAL/COMP</td>
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<td>.135</td>
<td>.047</td>
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<tr>
<td>LOC/AGE</td>
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<td>.079</td>
<td>.013</td>
<td>.092</td>
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<td>LOC/SEX</td>
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<td>LOC/RACE</td>
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<td>-.104</td>
<td>-.020</td>
<td>-.124</td>
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<tr>
<td>LOC/EDUC</td>
<td>-.064</td>
<td>-.060</td>
<td>-.003</td>
<td>-.063</td>
</tr>
<tr>
<td>LOC/COMP</td>
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<td>.049</td>
<td>-.039</td>
<td>.010</td>
</tr>
<tr>
<td>LOC/HEAL</td>
<td>-.123</td>
<td>-.093</td>
<td>-.026</td>
<td>-.119</td>
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<tr>
<td>WORK/AGE</td>
<td>.322</td>
<td>.248</td>
<td>.073</td>
<td>.321</td>
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<tr>
<td>WORK/SEX</td>
<td>.129</td>
<td>.094</td>
<td>.037</td>
<td>.131</td>
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<td>WORK/RACE</td>
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<tr>
<td>WORK/EDUC</td>
<td>-.127</td>
<td>-.075</td>
<td>-.051</td>
<td>-.127</td>
</tr>
<tr>
<td>Bivariate relationship</td>
<td>Total covariance</td>
<td>Causal</td>
<td>Noncausal</td>
<td></td>
</tr>
<tr>
<td>------------------------</td>
<td>------------------</td>
<td>--------</td>
<td>-----------</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Direct + Indirect = Total</td>
<td></td>
<td></td>
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<tr>
<td>WORK/COMP</td>
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<td>WORK/LOC</td>
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<td>.076</td>
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<td>WORK/FIN</td>
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<td>-.413</td>
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The coefficient of multiple determination for the entire set of antecedant variables was .339, indicating that these variables account for almost 34% of the variance in work orientation in the older population sampled ($F = 8.553$, df 8/11, $p < .01$).

**Causal statement 1.** Relative estimates of the magnitude of the relationships of the direct and indirect effects of race, sex and age on work orientation (WORK/RACE, WORK/SEX, WORK/AGE). Age was seen as having a significant direct effect ($p = .248$) on work orientation with younger persons more likely to be working or seeking work. While the covariance between sex and work was .129 (women being less likely to be working or seeking work than men), this was seen as being due partially to the relationship of sex with other variables and thus, the direct effect was reduced to .094. There was no other significant direct or indirect effects of race, sex or age on work orientation.

**Causal statement 2.** Relative estimates of the magnitude of the relationships of the direct and indirect effects of race, sex and age on level of education (EDUC/RACE, EDUC/SEX, EDUC/AGE). There were no significant direct or indirect effects of race, sex or age on level of education.
Causal statement 3. Relative estimates of the magnitude of the relationships of the direct and indirect effects of race, sex and age on self-perceived work competence (COMP/RACE, COMP/SEX, COMP/AGE). Age had a direct effect on self-perceived work competence ($E = -.164$) with older persons seeing themselves as less competent. Education was seen as having a direct effect on work competence ($E = .141$) with more highly educated persons seeing themselves as more competent.

Causal statement 4. Relative estimates of the magnitude of the relationships of the direct and indirect effects of race, sex and age on self-perceived health status (HEAL/RACE, HEAL/SEX, HEAL/AGE). Age and race showed significant direct causal relationships to self-perceived health status ($E = -.124$ and $.101$ respectively). Older persons reported a lower health level and white persons reported a higher health level. In addition, competence was seen as having a direct effect on perceived health status ($E = .135$) with persons seeing themselves as more competent also seeing themselves in better health.

Causal statement 5. Relative estimates of the magnitude of the relationships of the direct and indirect effects of race, sex and age on locus of control (LOC/RACE, LOC/SEX, LOC/AGE). Race was the only variable of the three
showing a significant relationship to locus of control ($p = -0.104$), with non-whites scoring higher on the Locus of Control Scale (more external). The covariance between health status and locus of control was $-.123$ indicating that persons with a lower health status tended to be more external, but this was seen as due, in part, to other relationships in that the path coefficient ($-.093$) was less than the covariance coefficient.

**Causal statement 6.** Relative estimates of the magnitude of the relationships of the direct and indirect effects of education, self-perceived work competence, self-perceived health status and locus of control on work orientation (WORK/EDUC, WORK/COMP, WORK/HEAL, WORK/LOC). While education had a direct causal effect on both work competence ($p = .141$) and health ($p = .125$) and a covariance coefficient of $-.127$ with work, it did not have a significant direct effect on work status.

Locus of control, while directly affected by race, did not have a significant direct or indirect effect on work status although the tendency is for the more external to not be working. Again, in this instance, the covariance ($0.128$) was reduced by the indirect effects of other variables.
Causal statement 7. Relative estimates of the magnitude of the relationship of the direct effect of self-perceived financial status on work orientation (WORK/FIN). This effect was considered independent of other variables and indicated a significant effect ($E = -0.413$). Persons who reported a higher level of financial need tended to be those working or seeking work.

**Hypothesis Testing - Specific Relationship**

1. It was hypothesized that older persons would tend to have lower levels of education than younger persons. This did not occur. The path coefficient was 0.03, indicating a slight tendency for older persons to have higher levels of education than younger persons.

2. It was hypothesized that women would tend to have higher levels of education than men. The path coefficient was 0.07, indicating a tendency in the hypothesized direction.

3. It was hypothesized that whites would tend to have higher levels of education than non-whites. The path coefficient was 0.03, indicating a slight tendency in the hypothesized direction.

4. It was hypothesized that older persons would indicate a lower self-perceived work competence than younger
persons. The path coefficient was -.16, indicating a significant path relationship.

5. It was hypothesized that women would indicate a lower self-perceived work competence than men. The path coefficient was -.08, indicating a tendency in the hypothesized direction.

6. It was hypothesized that whites would indicate a higher self-perceived work competence than non-whites. The path coefficient was .02, indicating a slight tendency in the hypothesized direction.

7. It was hypothesized that persons with higher levels of self-perceived work competence than persons with lower levels of education. The path coefficient was .14, indicating a significant path relationship.

8. It was hypothesized that older persons would indicate lower levels of self-perceived health status. The path coefficient was -.12, indicating a significant path relationship.

9. It was hypothesized that women would tend to indicate lower levels of self-perceived health than men. The path coefficient was -.09, indicating a tendency to the hypothesized direction.
10. It was hypothesized that whites would report higher levels of self-perceived health status than non-whites. The path coefficient was .10, indicating a significant path relationship.

11. It was hypothesized that persons having higher levels of education would report higher levels of health status. The path coefficient was .12, indicating a significant path relationship.

12. It was hypothesized that persons reporting higher levels of self-perceived work competence would report higher levels of health status than persons reporting lower levels of self-perceived work competence. The path coefficient was .14, indicating a significant path relationship.

13. It was hypothesized that older persons would tend to be more external than younger persons. The path coefficient was .08, indicating a tendency in the hypothesized direction.

14. It was hypothesized that women would tend to be more external than men. The path coefficient was .06, indicating a tendency in the hypothesized direction.

15. It was hypothesized that non-whites would tend to be more external than whites. The path coefficient was
-.10, indicating a significant path relationship.

16. It was hypothesized that persons having lower levels of education would tend to be more external than persons having higher levels of education. The path coefficient was -.06, indicating a tendency in the hypothesized direction.

17. It was hypothesized that persons having a higher level of self-perceived work competence would tend to be less external than those having a lower level of self-perceived work competence. The path coefficient was .05, indicating a tendency for persons who reported lower levels of self-perceived work competence to be somewhat less external.

18. It was hypothesized that persons having a higher level of self-perceived health status would tend to be less external than those having a lower level of self-perceived health status. The path coefficient was -.09, indicating a tendency in the hypothesized direction.

19. It was hypothesized that older persons would be less likely to be working than younger persons. The path coefficient was .25, indicating a significant path relationship.

20. It was hypothesized that women would be less
likely to be working than men. The path coefficient was .09, indicating a tendency in the hypothesized direction.

21. It was hypothesized that non-whites would be less likely to be working than whites. This did not occur. The path coefficient was .01, the direction being towards whites not working.

22. It was hypothesized that persons with lower levels of education would be less likely to be working that persons with higher levels of education. The path coefficient was -.08, indicating a tendency in the hypothesized direction.

23. It was hypothesized that persons indicating lower levels of self-perceived work competence would be less likely to be working than persons with higher levels of self-perceived work competence. The path coefficient was -.29, indicating a significant path relationship.

24. It was hypothesized that persons indicating lower levels of self-perceived health status would be less likely to be working than persons with higher levels of self-perceived health status. The path coefficient was -.16, indicating a significant path relationship.

25. It was hypothesized that persons who were more external would be less likely to be working than persons
who were less external. The path coefficient was .08, indicating a tendency in the hypothesized direction.

26. It was hypothesized that persons who reported lower levels of financial need would be less likely to be working than persons reporting higher levels of financial need. The path coefficient was -.41, indicating a significant path relationship.

**Modified Causal Model**

Based on the deletion criteria of an absolute value of .10, 15 of the 26 path coefficients were identified as failing to explain at least 1% of the variance. The remaining 11 path coefficients which were seen as meeting the criteria for inclusion in the modified model were:

1. Age to competence (COMP/AGE) at $p = -.16$.
2. Age to health (HEAL/AGE) at $p = -.12$.
3. Age to work (WORK/AGE) at $p = .25$.
4. Race to health (HEAL/RACE) at $p = .10$.
5. Race to locus of control (LOC/RACE) at $p = -.10$.
7. Education to health (HEAL/EDUC) at $p = .12$.
9. Competence to work (WORK/COMP) at $p = -.29$.
10. Health to work (WORK/HEAL) at $p = -.16$.
11. Finance to work (WORK/FIN) at $p = -.41$. 
In the modified causal model (Figure 3), age, race and education are taken as the exogeneous variables and self-perceived work competence and self-perceived health status remain as intervening variables. Locus of control is not seen as contributing significantly to work orientation and, therefore, is not considered an intervening variable. Finance retains it's original position as an exogeneous variable in relationship to work orientation.

Summary

A hypothetical path model was tested to determine the direct and indirect effect of selected variables on work orientation in a voluntary sample of 148 persons 62 years of age and older. The average age was nearly 70 and those who were working were generally younger than those who were not working. The sample was largely white; about two-thirds were female. The majority had completed high school and almost one-half of them had some post-secondary education. Reported work competence and health status tended to be more positive than negative and the group, as a whole, scored rather low on the Rotter (1966) Internal External Locus of Control Scale. Approximately one-half of the sample were not working or looking for work at the time of the study.

Of the 26 hypothesized paths in the model, 11 were
Figure 3

Modified Causal Model
found to meet the criteria of explaining at least 1% of the variance in either work orientation or one of the intervening variables.

Age was seen to relate negatively to competence and health status with the old old seeing themselves as less competent and having a poorer health status. Age related positively to work status with the old old tending to be not working.

Race related negatively to perceived health status. Whites saw themselves in better health than non-whites. Non-whites tended to score more externally on the Locus of Control Scale so that race related positively to locus of control.

Level of education was seen as relating positively to competence and health with more highly educated persons seeing themselves as more competent and in better health. Self-perceived work competence had a direct effect on health status and work orientation. Persons who saw themselves as more competent also saw themselves as healthier. Persons who saw themselves as less competent and/or less than healthy tended to be not working.

Self-perceived financial adequacy directly effected work status with those persons reporting a higher financial
need tending to be those persons not working.

Based on the paths meeting the criterion of significance, a modified model was developed for these variables.
Summary

The role of retirement in today's society is confounded by the changing character of the ever increasing older population. Among the many issues and questions counselors and human service personnel face in determining the needs of this population and how best to respond to these needs is the issue of work after retirement. The importance of this issue is highlighted by the number of older persons currently working and those seeking work.

The overall purpose of the present study was to attempt to determine the relative magnitude of the direct and indirect effects of the selected variables of race, sex, age, level of education, self-perceived work competence, self-perceived health status, locus of control and self-perceived financial need, on the tendency to be employed or seek employment in a voluntary sample of older persons. Based on a theorized interactive and additive effect of these variables, the testing of a path analytic model was developed as the major research hypothesis.

The review of the literature revealed that there
had been only limited research related to post-retirement employment. No literature articulating the relationship between post-retirement work orientation and locus of control was found. On the other hand, both post-retirement employment and locus of control were seen as being related to health status and life satisfaction or well-being. Generally, conclusions indicated that older persons who were working tended to be better off (Butler, 1972; Jaslow, 1976; Riley & Foner, 1969; Thompson, 1973) as did older persons who evidenced a more internal locus of control (Baker, 1977; Palmore & Luikart, 1972; Wolk & Kurtz, 1975).

Locus of control, as a construct, represents the sense of power or personal choice an individual possesses or lacks (Rotter, Chance & Parnes, 1972) and an internal attitude may be seen as a propensity to influence one's environment and, possibly, a mark of initiative and competence.

Older persons who are relatively less external generally fare better than other older persons. They evidence a higher life satisfaction (Wolk & Kurtz, 1975), greater success (Andrisani & Nestel, 1975 and Rotter, 1966), a more positive attitude towards life (Baker, 1977), and retirement (Lowenthal and Pierce, 1975), see themselves as relatively younger (Linn & Hunter, 1979) and are better
able to cope (Kuypers, 1973). In constrained environments or institutional settings, though, the more external individual is at an advantage in that this person is apparently better able to adjust to the situational constraints (Felton & Kahana, 1974; and Wolk, 1976). Further, Bradley and Webb (1976) suggest that the highly internal older person may find the realities of old age more damaging to self-worth than those who are less internal.

Age or maturity (Bradley & Webb, 1976; Milgram, 1971; Penk, 1969); life events or experiences (Harvey, 1971; Lefcourt, 1976; Smith, 1970); health status or disability (Levinson, 1975; Linn & Hunter, 1979) may serve to influence the relative level of locus of control.

In the older population, men are more likely than women to be working and increased age is negatively associated with working, particularly for men. Women and whites are more likely to have higher levels of education than men or non-whites.

The role of education as it pertains to labor market participation after retirement appears to have two distinct factors. First, persons who have higher levels of education are more likely to be employed than those with lower levels of education (Jaffe, 1978). Second, those who have a high school education or less are more likely to desire
employment than the more highly educated (Louis Harris, 1976).

In spite of disabilities, older workers appear to see their health positively (Jaslow, 1976). Botwinick (1974) concludes that healthier people may be more likely to work. Lack of a feeling of self-worth, on the other hand, may be a deterrent to employment (Bartlett, 1978).

Financial need, whether perceived or actual, appears to be an important factor in the determination to seek employment on the part of older persons (Louis Harris, 1974; Senior Personnel Employment Committee, 1976).

Development of the Model

The path model or explanatory schema to be tested was developed on the basis of the literature, theoretical assumptions and logical analysis of related findings.

Race, sex and age were taken as independent variables. These exogeneous variables were hypothesized as having a causal effect on level of education, self-perceived work competence, self-perceived health status, locus of control and work orientation.

Because being old and being female tend to be associated with not working (United States Department of
Labor, 1976), age and sex were postulated to have a direct effect on work orientation. No such specific conclusions could be determined as to race, but, based on less positive work histories for many minorities, it was hypothesized that being non-white would also be associated with not working.

It was further hypothesized that race, sex and age would influence educational attainment. This was based on 1970 census data (United States Bureau of Census, 1973), which indicates that for the over-65 population, younger, white women would tend to have the highest levels of educational attainment, while older, black men would have the lowest educational levels.

An assumption, drawn from White's (1966) definition of competence as being the experience based level of confidence possessed by the individual that he can deal with circumstances which are likely to arise, was the basis of the hypothesis that the old-old, women and non-whites would tend to evidence a lower level of self-perceived work competence than the young-old, males and whites in the sample.

The hypothetical relationships of race, sex and age to health were based primarily on census data indicating longer life spans for women and whites. It was therefore
hypothesized that the young-old, women and whites would report higher levels of self-perceived health status than the old-old, men and non-whites.

The influence of race, sex and age on locus of control was less clear. Locus of control may be seen as the result of life events or experiences (Harvey, 1971; Lefcourt, 1976; Smith, 1970) and apparently race, sex and age do influence life events or experience. Therefore, it was posited that these variables would also influence locus of control. For the purpose of this study, it was hypothesized that the old-old, women and non-whites would tend to be more external.

The first major dependent variable was taken to be level of education. In addition to its theorized dependency on race, sex and age, level of education was postulated to have a direct effect on self-perceived work competence, self-perceived health status, locus of control and work orientation.

It was hypothesized that the older person's level of education would be directly or positively related to self-perceived work competence as education was assumed to be one of the experiences which enhanced confidence in the individual. Because educational attainment is seen as
influencing financial and other socio-economic factors, it was further hypothesized that educational attainment would also positively relate to self-perceived health status.

Lefcourt (1976) sees perceived control as being associated with "access to opportunity". Thus level of education was hypothesized to relate to a less external locus of control. Finally, it was hypothesized that persons with higher levels of education would be more likely to be working than those with less education.

Self-perceived work competence and self-perceived health status were taken as the second and third dependent variables. It was hypothesized that self-perceived work competence would be positively associated with self-perceived health status. Further, it was hypothesized that, because of the relationship between labor market success and locus of control, self-perceived work competence would be negatively associated with an external locus of control. Based on the findings of Levinson (1975) and Linn and Hunter (1979), it was hypothesized that self-perceived health status would also be negatively associated with an external locus of control. Finally, it was hypothesized that both self-perceived work competence and self-perceived health status would contribute to the likelihood of the individual being employed rather than unemployed.
Locus of control, as the fourth dependent variable, was hypothesized to relate positively to work orientation; that is, a higher external score would be associated with the tendency to be not working and not looking for work.

Self-perceived financial need was hypothesized to have a negative relationship with work orientation, with persons having higher needs being more likely to be working or seeking work than persons who expressed lower levels of need. It was taken as the final exogeneous or independent variable, being related only to work orientation.

A diagram of the hypothesized relationships is given in Figure 1.

Method

Data for the study were gathered from surveys completed by 153 voluntary participants aged 62 and over who were solicited from groups and agencies serving older persons in the Chicago metropolitan area. The largest portion of the surveys (119) were gathered by graduate students, with the remaining gathered by staff members of an agency providing employment and job counseling services for older persons. Participants were deliberately sought from among the more active, involved older population and no surveys were gathered from persons in institutions or from persons who were home-bound.
The survey instrument consisted of 2 parts (See Appendix A). The first part dealt with personal characteristics such as age, race, sex and educational level as well as self-perceived work competence, self-perceived health status and self-perceived financial adequacy. The second part utilized Rotter's (1966) Internal External Locus of Control Scale. A pilot of the survey was done with a group of 12 persons, aged 63 to 73, who were all working at the time. Modifications were made based on their recommendations.

The data were analyzed for sample characteristics and a path analytic approach was utilized to test and modify the hypothesized causal model. Path analysis was accomplished in three steps: (1) computation of a correlation matrix, (2) computation of path coefficients, and (3) determination of direct effect, indirect effect and indeterminate or non-causal effect.

Results of the Study

Of the 153 surveys gathered, five were spoiled because of various errors, leaving 148 surveys to be analyzed. The mean age of the sample of 51 men and 97 women was 69.73 years. Of the 145 persons who indicated their race, only 5 were non-white. Approximately one-half (49.3%) were not working or looking for work. The portion of the
sample that was working (29%) were about two years younger than the group as a whole (mean ages of 67.74 and 69.73 respectively). The group was relatively well educated with only 27% having not completed high school and nearly 49% having some post-secondary education. In terms of work competence and health status, the group tended to see themselves more positively than negatively. In comparison to other studies with this age group, the group scored quite low on the Rotter Locus of Control Scale. The mean of 7.95 would indicate a high level of internality. Significant differences (beyond the .01 level) were found in terms of work orientation in age, work competence, health status and financial need.

The entire set of contributing variables accounted for 33.9% of the variance in work orientation in the older population sampled ($F = 8.553$, df 8/11, $p < .01$). Path analysis yielded 11 paths of the 26 hypothesized that met the criterion of .10 (accounting for at least 1% of the variance). These included age to competence ($p = -.16$); age to health ($p = -.12$); age to work ($p = .25$); race to health ($p = .10$); race to locus of control ($p = -.10$); education to competence ($p = .14$); education to health ($p = .12$); competence to health ($p = .14$); competence to work ($p = -.29$); health to work ($p = -.16$); and finance to work ($p = -.41$). A modified path model was developed
Results of the analysis of the 26 paths were, generally, in the direction postulated except for three major exceptions: (1) In the relationship of age to education, it was hypothesized that younger persons would evidence higher levels of education than older persons. This did not occur. (2) In the relationship of competence to locus of control, it was hypothesized that persons who evidenced higher levels of competence would be less external than those who evidenced lower levels of competence. This did not occur. (3) The assumption of independence for financial need did not hold up. It was found to correlate at a relatively high level with level of education ($r = -.10$), age ($r = -.23$) and sex ($r = .12$).

Overall, the findings of the present investigation can be summarized as follows:

1. The model was shown to be an effective predictor of work orientation in the older population. The set of variables explained 33.9% of the variance in work orientation (significant beyond the .01 level).

2. Of the variables considered, the single most important factor in an older person's desire or propensity to work was self-perceived financial need. The path coefficient of finance to work was $-.41$, suggesting that
finance accounted for approximately 16.8% of the variance in the dependent variable. Persons who reported a higher financial need were more likely to be working or seeking work.

3. The second most important factor in determining work orientation in the older population studied was self-perceived work competence, with those persons reporting a higher level of competence being more likely to be working or seeking work than those reporting lower levels of competence. The path coefficient was -0.29, accounting for 8.4% of the variance in the dependent variable.

4. With a path coefficient of 0.25, the third most important factor in determining work orientation was age, which accounted for about 6% of the variance. The young-old appeared to be more likely to be working or seeking work than the old-old.

5. The fourth most important factor in determining work orientation in the older population studied was self-perceived health status. The direct path coefficient was -0.16 (2.5% of the variance) and the indirect path coefficient was -0.11 (1% of the variance). Those persons who saw themselves as healthier were more likely to be working or seeking work than those who had a lower self-perceived health status.

6. Race was found to make a contribution to the
causal model via its indirect effect on health status, with whites seeing themselves in better health. The path coefficient of race to health was .10 indicating that 1% of the variance in health status was due to race.

7. Level of education was found to make an important contribution to the causal model via its relationships with competence and health. Education accounted for about 2% of the variance in competence ($E = .14$) and about 1.6% of the variance in health ($E = .12$).

8. Locus of control did not have a significant effect on work orientation. The direct path coefficient was .08 and the indirect path coefficient was .03, neither of which met the criterion for significance of $.10$.

Discussion

Based on statistical data, the young-old are generally expected to be better educated than the old-old. In this study there was found to be a slight, though non-significant, positive relationship between age and education ($r = .03$). Thus, there appeared to be higher levels of education among the old-old rather than the young-old. This may relate both to the voluntary nature of the sample and the fact that the sample was relatively small. With the understanding that the sample was deliberately biased towards the more active, participatory older population, and the fact that the sample was more highly educated than
the general older population, it may also be seen as an example of the selectivity of aging in that better educated persons tend to live longer (Palmore, 1969). The significance of the relationships between education and competence and education and health in this study would suggest that persons with higher levels of education tend to fare better in old age than those with less education. It may well be that, based on selectivity, the old-old who continue to be active and involved - those who enjoy better health - may be those who are among the more highly educated of our population.

A second discrepancy in the study is in the relationship between self-perceived work competence and locus of control. Based on logical analysis of past research relating to locus of control and the definition of locus of control given by Rotter et al (1972) as being the relative sense of power or personal choice an individual possesses, it was hypothesized that competence and locus of control would be closely related and thus, persons who evidenced a lower sense of self-perceived work competence would tend to be more external. In spite of the relatively high positive relationships between competence, health and education, and the negative relationships of education and health with locus of control, the expected negative relationship between competence and locus of control did not
occur. Persons who reported a higher level of self-perceived work competence apparently tended to be more external ($p = .05$). This finding may be a result of a weakness of the instrumentation, or the small sample size, or it may relate to the confounding aspects of aging itself. The more internal older persons may be placed in a double bind, not being able to confirm either a sense of control or a sense of competence. If one examines this data in terms of the suggestion by Bradley and Webb (1976) that the highly internal older person may find aging more damaging to self-worth than others, it may be logical to assume that persons who are more internal would report lower levels of competence based on the realities of diminished control and a concommitant loss of self-worth.

The concept of self-perceived financial need as it relates to employment was seen as a subjective judgment on the part of the older person rather than a measure of actual income. The results of this study indicated that persons reporting higher levels of financial need tended to be less educated, younger and female. In a path analytic model concerning factors related to perceived financial adequacy, Liang and Fairchild (1979) found that income does have an impact on financial satisfaction. However, in their study, the path coefficient between labor force
participation and financial satisfaction was not significant.

The relationship of race to work \((p = .01)\) showed a very slight tendency for whites to be not working. Because the number of non-whites in the sample was so small, and because the indirect path coefficient was considerably larger than the direct path coefficient \((p = -.06 \text{ and } .01\) respectively), no real conclusion can be drawn from the available data.

In terms of locus of control, the old-old tended to be more external, but not significantly so. The path coefficient \((.08)\) approached, but did not meet the criterion of .10. Further, less external individuals tended to be working, but, again the path coefficient \((.08)\) was not significant.

In spite of general practice, it may not be appropriate to use an instrument such as the Rotter Locus of Control Scale in studies of this nature. Rotter (1975) points out that locus of control is a factor of both generalized expectancy and a specific expectancy. He states:

\[\text{...one must guard against the assumption that expectancy regarding control of reinforcement is a behavior trait and that the prediction of behavior can ignore the value of the reinforcement that is the expected outcome of the behavior being studied. (p. 66)}\]

Lefcourt (1977) recommends that, if the perception of con-
trol is to be used as a powerful predictor, it is more advisable to design an assessment device specifically for the criterion under investigation.

Finally, it is important to note that the particular causal model under investigation is but one of many which might be hypothesized for work orientation in the elderly.

**Recommendations**

1. Evidence was found for the need to conduct further studies relating to work orientation in the older population, particularly among non-white populations. Because of the lack of a representative number of non-white subjects in this study, no conclusions can be drawn concerning race and work orientation. On the other hand, because the model used as a basis for the study accounted for approximately 34% of the variance in work orientation, it is evident that there are significant differences between older persons who choose to work and those who do not.

2. The finding that older persons who reported a higher level of work competence may tend to be more external than those who report lower levels of work competence and the interrelationships between the variables of work competence, locus of control, level of education and health, provide evidence to support the need for further
studies relating to self-perceived work competence or self-worth, locus of control, health and level of education in the older population. Of particular interest is the effects of aging over time on the highly internal older person.

3. The indication that the active old-old population may have a higher average level of education than the larger young-old population gives support to the need for further studies relating to level of education and level of activity and involvement among the old-olds.

4. The relatively high correlation coefficients of finance with the antecedent variables of level of education \( (\rho = -.10) \), age \( (\rho = -.23) \), and sex \( (\rho = .12) \) provide evidence for the need to consider finance interdependently with other variables, particularly level of education, age and sex, in research relating to work orientation.

5. The apparent failure of locus of control as measured by Rotter's Locus of Control Scale to provide a powerful prediction of work orientation suggests the need for more specifically criterion referenced measures of locus of control in similar studies.

6. The significant contribution of financial need, work competence, age and health status to work orientation
gives direction to the counselor in exploring motivations for seeking employment on the part of the older worker and factors to consider when an older worker faces unemployment or discouragement in employment efforts.
BIBLIOGRAPHY


Appendix A
WORK ORIENTATION SURVEY

NOTE: Please do not complete this questionnaire unless you are at least 62 years old. This is part of a study about why some people decide to go back to work after they have retired and others don't. Your answers will be kept confidential.

1. What is your age? _______

2. When were you born? month day year

3. Sex: [ ] Male [ ] Female

4. Race: [ ] Black [ ] White [ ] Other

5. Marital Status: [ ] Married [ ] Widowed [ ] Single
   [ ] Divorced [ ] Other

6. What is the highest educational level you have reached?
   [ ] Some Grade School [ ] Graduated High School [ ] College Degree
   [ ] Eighth Grade [ ] Some College [ ] Advanced Degree
   [ ] Some High School [ ] Trade School [ ] Other

7. When you compare yourself with others your age, how would you rate yourself in terms of what you know or are able to do?
   [ ] Above Average [ ] About Average [ ] Below Average

8. At what age did you retire from your regular job? _______

9. What was that job? _____________________________________________

10. As a worker, how effective would you say you are in comparison to other workers?
    [ ] More effective than most
    [ ] As effective as most
    [ ] Not as effective as most
11a. Do you have any health problems or conditions that would keep you from working?

☐ Yes  ☐ No

11b. Do you have any health problems or conditions that limit your leisure activities?

☐ Yes  ☐ No

12. In comparison to others your age, how would you rate your health?

☐ Better Than Most  ☐ As Good As Most  ☐ Not As Good As Most

13. Check the one statement that best describes what you are doing now.

☐ I am now working 15 hours a week or more for a wage.

☐ I am not now working, but I am looking for work.

☐ I am not working and I am not looking for work.

☐ None of the above. (please specify) _______________________________

14. There are many reasons older persons go back to work after retirement. Which of these four would you say is the MAIN or MOST FREQUENT reason? Place a "1" by that statement. Which would you say is the SECOND MOST FREQUENT REASON? Place a "2" by that statement.

☐ Like to keep busy

☐ Don't like retirement

☐ Need money

☐ Want to use skills and knowledge

15. Without any employment earnings you might have, which statement best describes your financial status?

☐ I have more than enough income for my needs.

☐ I have enough income for my needs.

☐ I need additional income to meet increased living costs.

☐ I must have additional income to get by.
PLEASE ANSWER THESE ITEMS CAREFULLY BUT DO NOT SPEND TOO MUCH TIME ON ANY ONE ITEM. BE SURE TO FIND AN ANSWER FOR EVERY CHOICE. FOR EACH NUMBERED QUESTION MAKE AN X ON THE LINE BESIDE EITHER THE a OR b, WHICHEVER YOU CHOOSE AS THE STATEMENT MOST TRUE IN SOME INSTANCES YOU MAY DISCOVER THAT YOU BELIEVE BOTH STATEMENTS OR NEITHER ONE. IN SUCH CASES, BE SURE TO SELECT THE ONE YOU MORE STRONGLY BELIEVE BE THE CASE AS FAR AS YOU'RE CONCERNED. ALSO TRY TO RESPOND TO EACH ITEM INDEPENDENTLY WHEN MAKING YOUR CHOICE: DO NOT BE INFLUENCED BY YOUR PREVIOUS CHOICES.

REMEMBER: SELECT THE ALTERNATIVE WHICH YOU PERSONALLY BELIEVE TO BE MORE TRUE

1. a. Children get into trouble because their parents punish them too much. b. The trouble with most children nowadays is that their parents are too easy with them.

2. a. Many of the unhappy things in people's lives are partly due to bad luck. b. People's misfortunes result from the mistakes they make.

3. a. One of the major reasons why we have wars is because people don't take enough interest in politics. b. There will always be wars, no matter how hard people try to prevent them.

4. a. In the long run people get the respect they deserve in this world. b. Unfortunately, an individual's worth often passes unrecognized no matter how hard he tries.

5. a. The idea that teachers are unfair to students in nonsense. b. Most students don't realize the extent to which their grades are influenced by accidental happenings.

6. a. Without the right breaks one cannot be an effective leader. b. Capable people who fail to become leaders have not taken advantage of their opportunities.

7. a. No matter how hard you try some people just don't like you. b. People who can't get others to like them don't understand how to get along with others.
8. a. Heredity plays the major role in determining one's personality. b. It is one's experiences in life which determine what they're like.

9. a. I have often found that what is going to happen will happen. b. Trusting to fate has never turned out as well for me as making a decision to take a definite course of action.

10. a. In the case of the well prepared student there is rarely if ever such a thing as an unfair test. b. Many times exam questions tend to be so unrelated to course work that studying is really useless.

11. a. Becoming a success is a matter of hard work, luck has little or nothing to do with it. b. Getting a good job depends mainly on being in the right place at the right time.

12. a. The average citizen can have an influence in government decisions. b. This world is run by the few people in power, and there is not much the little guy can do about it.

13. a. When I make plans, I am almost certain that I can make them work. b. It is not always wise to plan too far ahead because many things turn out to be a matter of good or bad fortune anyhow.

14. a. There are certain people who are just not good. b. There is some good in everybody.

15. a. In my case getting what I want has little or nothing to do with luck. b. Many times we might just as well decide what to do by flipping a coin.

16. a. Who gets to be the boss often depends on who was lucky enough to be in the right place at the right time. b. Getting people to do the right thing depends upon ability; luck has little or nothing to do with it.
17.  a. As far as world affairs are concerned, most of us are the victims of forces we can neither understand, nor control.  
b. By taking an active part in political and social affairs the people can control world events.

18.  a. Most people can't realize the extent to which their lives are controlled by accidental happenings.  
b. There really is no such thing as "luck".

19.  a. One should always be willing to admit his mistakes.  
b. It is usually best to cover up one's mistakes.

20.  a. It is hard to know whether or not a person really likes you.  
b. How many friends you have depends upon how nice a person you are.

21.  a. In the long run the bad things that happen to us are balanced by the good ones.  
b. Most misfortunes are the result of lack of ability, ignorance, laziness, or all three.

22.  a. With enough effort we can wipe out political corruption.  
b. It is difficult for people to have much control over the things politicians do in office.

23.  a. Sometimes I couldn't understand how teachers arrived at the grades they gave.  
b. There is a direct connection between how hard I studied and the grades I got.

24.  a. A good leader expects people to decide for themselves what they should do.  
b. A good leader makes it clear to everybody what their jobs are.

25.  a. Many times I feel that I have little influence over the things that happen to me.  
b. It is impossible for me to believe that chance or luck plays an important role in my life.
<p>| | | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>26.</td>
<td>a. People are lonely because they don't try to be friendly.</td>
<td>b. There's not much use in trying too hard to please people, if they like you, they like you.</td>
</tr>
<tr>
<td>27.</td>
<td>a. There is too much emphasis on athletics in high school.</td>
<td>b. Team sports are an excellent way to build character.</td>
</tr>
<tr>
<td>28.</td>
<td>a. What happens to me is my own doing.</td>
<td>b. Sometimes I feel that I don't have enough control over the direction my life is taking.</td>
</tr>
<tr>
<td>29.</td>
<td>a. Most of the time I can't understand why politicians behave the way they do.</td>
<td>b. In the long run the people are responsible for bad government on a national as well as on a local level.</td>
</tr>
</tbody>
</table>

Did you answer all the questions?

Thank You. Remember your answers will be kept confidential. If you want to know more about the study, please contact me: Diane Kjos
Career Guidance Center
Thornton Community College
South Holland, Illinois
596-2000, Extension 314

May I have your name, address, and phone number in case I need to get in contact with you?

Name
Phone

Address

City State Zip Code
Appendix B
Table A

One-Way ANOVA for Work Orientation by Age

<table>
<thead>
<tr>
<th></th>
<th>Sum of Squares</th>
<th>Degrees of Freedom</th>
<th>Mean Square</th>
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<tr>
<td>Between Groups</td>
<td>594.6250</td>
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</tr>
<tr>
<td>Within Groups</td>
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<td>32.1845</td>
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<tr>
<td>Total</td>
<td>4682.0625</td>
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\[ F = 9.2377* \]

\[ \text{Eta Squared} = 0.1270 \]

*Significant beyond the .01 level.
Table B

One-Way ANOVA for Work Orientation by Education

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<td>Total</td>
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F = 1.1659

Eta Squared = 0.0179
Table C

One-Way ANOVA for Work Orientation by Work Competence

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\[ F = 10.0001^* \]  
\[ \text{Eta Squared} = 0.1379 \]

*Significant beyond the .01 level.
Table D

One-Way ANOVA for Work Orientation by Health

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<td>Total</td>
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\[ F = 9.562^* \]

\[ \text{Eta Squared} = 0.1300 \]

*Significant beyond the .01 level.
Table E

One-Way ANOVA for Work Orientation by Locus of Control

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\[ F = 1.4285 \]

\[ \text{Eta Squared} = 0.0240 \]
### One-Way ANOVA for Work Orientation by Financial Need

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\[
F = 14.8121^* \\
\text{Eta Squared} = 0.1868
\]

*Significant at the .01 level.
Table G

Relative Contributions of Antecedent Variables to Total Indirect Effect for Each Covariance

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<th></th>
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<th>SEX 2</th>
<th>RACE 3</th>
<th>EDUC 4</th>
<th>COMP 5</th>
<th>HEAL 6</th>
<th>LOC 7</th>
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APPROVAL SHEET

The dissertation submitted by Diane Sorenson Kjos has been read and approved by the following committee:

Dr. Gloria Lewis, Director
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Dr. John Wellington
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The final copies have been examined by the director of the dissertation and the signature which appears below verifies the fact that any necessary changes have been incorporated and that the dissertation is now given final approval by the Committee with reference to content and form.

The dissertation is therefore accepted in partial fulfillment of the requirements for the degree of Doctor of Philosophy.

December 14, 1979

[Signature]
Director