To the Graduate Council:

I am submitting herewith a dissertation written by John Henry Spencer entitled "Anticipated Retirement: Generalized Locus of Control, Interest in the Future, and Morale." I recommend that it be accepted in partial fulfillment of the requirements for the degree of Doctor of Philosophy, with a major in Psychology.

Wesley G. Morgan, Major Professor

We have read this dissertation
and recommend its acceptance:

Accepted for the Council:

Vice Chancellor
Graduate Studies and Research

ANTICIPATED RETIREMENT: GENERALIZED LOCUS OF CONTROL, INTEREST IN THE FUTURE, AND MORALE

A Dissertation

Presented for the

Doctor of Philosophy

Degree

The University of Tennessee, Knoxville

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August 1981

3053735

ACKNOWLEDGEMENTS

I am humbled and gratified in realizing that so many individuals have contributed directly or indirectly to my development as a psychologist and to my dissertation.

I am grateful to the members of my doctoral committee. Wesley G. Morgan assumed the chair at a particularly difficult time and provided support, advice, and technical expertise which I appreciated at the time and which I now see as indispensable. His influence has been unerringly positive. Priscilla White and C. A. "Cappy" Pentz have cheerfully contributed their gerontological knowledge, their tutorial powers, and their encouragement, granting me access to an important and interesting field of study. Kenneth R. Newton has been my friend and my host as well as my teacher. I am grateful for his constancy.

The University of Tennessee and the Psychology Department are due acknowledgement, having contributed both material support and an environment for independent learning.

I want to acknowledge the contributions of several teachers. W. Theodore May, E. Llewellyn Queener, and Allen O. Battle, encouraged my undergraduate interest in psychology, opened practical and rewarding opportunities to pursue it, and served as admirable role models. Dr. May and Dr. Battle helped close the circle of my training by directing my clinical internship. By involving me in his

geriatric treatment program at the St. Cloud V. A. Hospital, Norman C. Bourestom introduced me to practical gerontology and to some magnificent old men. Leo F. Droppleman contributed significant time, involvement, and challenge to my graduate training; knowing of his struggles has encouraged me to take on mine. David J. Bender has been a good friend and teacher.

Many organizations and individuals provided invaluable help by identifying possible pre-retirees and by participating as subjects. These contributors are so numerous that I have resorted to listing some of them in Appendix B. I am sincerely grateful for the time, help, and interest which was given so freely.

Finally, I want to acknowledge the contributions of members of my family. Though I never met George C. Supplee or Oscar N. Spencer, my grandfathers, I have known them through their families; and I am proud of my relationship with them. My grandmothers, Rella Mae Stevinson Spencer and Ruth Anthony Cook Supplee, provided me the unique and rewarding experience of living with and learning from older persons. My parents, Betty and Morris, gave me and sustained my life; and they take pleasure in my living. Elizabeth, my sister, has encouraged me with her confidence. Mary Beth, my wife, has supported me materially, has helped compensate for my lacks, and gives special meaning to my future.

ABSTRACT

A sample of 87 persons, expecting to retire within from 20 years to ¼ year and predominantly white, married, professional women with moderate incomes and high educational achievement, was recruited by mail after being identified by professional, work place, and religious organization associates. Levenson locus of control scale (1974), Marlowe-Crowne Social Desirability Scale (Crowne & Marlowe, 1960), PGC Morale Scale (Lawton, 1975), and 2 interest in retirement scores as well as time to retirement and demographic data were obtained for most subjects.

A previously reported positive relationship between generalized internal locus of control and interest in the future (Rotter, 1966) was examined by correlational analysis as well as by multitrait-multimethod analysis. Pre-retirement morale was explored with multiple regression statistical techniques.

Although the obtained associations between locus of control and retirement interest were not statistically significant, the pattern of association was consistently as expected: retirement interest was more positively associated with internal locus of control than with powerful other or chance locus of control. The pattern of association between locus of control scores and retirement interest was similar to previously observed associations between locus of control and other cognitive variables (Levenson, 1974): internal

and powerful other locus of control were associated weakly and similarly with retirement interest and chance locus of control was associated negatively and more powerfully with retirement interest.

Pre-retirement morale was significantly and consistently associated with powerful other and chance locus of control and with time to retirement. Powerful other and chance locus of control were associated similarly and negatively with morale, and greater time to retirement was associated with higher morale. The association between retirement interest and morale was consistently negative though not significant.

Powerful other locus of control appeared to associate differently with the cognitive and affective variables examined, and this finding was taken to suggest that Levenson's tri-dimensional concept of locus of control is a useful differentiation of the construct.

Retirement interest, evaluated as a psychological trait, demonstrated minimal convergent, discriminant, and construct validity.

In no instance did associations with the independent variables account for as much as 35% of the variance in retirement interest or morale scores, and it was concluded that retirement interest and pre-retirement morale are not yet adequately understood. In addition, it was inferred from the response characteristics of this group of pre-retirees

and their associates that social isolation in retirement could develop from miscommunication with associates before retirement.

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INTRODUCTION

In 1960 "Retirement: The Emerging Social Pattern" was published. An extensive survey of literature on retirement researched and written by Donahue, Orbach, and Pollack, this article offered more than 40,000 words in review and summary of 235 research reports and theoretical statements dating from 1909. "The Emerging Social Pattern" was monumental for other reasons in addition to its size and content. The subject area of retirement - having major economic, sociological, psychological, and medical aspects - has earned characterization as "one of the most complicated areas of investigation in gerontology" (Adams, 1971).

Since 1960, the complex subject of retirement has received an impressive amount of scholarly attention. Reviews of research findings on more or less circumscribed retirement issues have appeared (Adams, 1971; Albrecht, 1969; Bixby, 1970; Bracey, 1966; Britton & Britton, 1972; Brotman et al., 1972; Darnley, 1975; David, 1960; Fillenbaum, 1971; Kasschau, 1974; Kreps, 1963; Miller, 1978; Odell, 1965; Palmore, 1964; Palmore, 1965; Palmore, 1972); broader reviews of research literature have been published (Atchley, 1976; Birren, 1964; Riley & Foner, 1968; Sheppard, 1976); theories have been synthesized and presented (Atchley, 1976; Binstock &

Shanas, 1976; Carp, 1972; Eisdorfer, 1972; Kimmel, 1974; Rosow, 1976); and a body of retirement research larger than that surveyed by Donahue et al. (1960) and too large to cite individually here has been conducted and reported. Research into retirement has been conducted in the Old World, in the New World, and in the East by researchers of diverse specialty and theoretical background. Hundreds of articles on the subject of retirement have appeared in scores of forums in the last 20 years; and Psychological Abstracts, Sociological Abstracts, and Social Sciences and Humanities, International, and Social Sciences Indexes have all indexed journal articles on the subject of retirement.

The demographics of retirement help account for the upsurge in social science retirement research that has taken place during the last 20 years, and the predicted growth of a retirement oriented population segment provides ample reason to believe that retirement will continue to be a subject for active and relevant research.

Estimates of the number of retirees in the U.S. are not made directly; rather, labor force participation rates and population age profiles are assumed to be indicative of the number of retirees. By these indications, the rate of retirement and the number of retirees are rising. In 1975, more than 24 million people 65 years old or older were living in the United States, and it was predicted

that the number of persons in this age group could increase by a factor of two-thirds by the year 2000 (Neugarten, 1975). That the population of persons 65 or older is on the increase absolutely and/or proportionally, has been widely reported (Huet, 1970; Kister, 1975; Miller, 1978; Pendrell, 1976). By 1978, only 10% of the population 65 years old or older was still in the labor force (Givens, 1978), this percentage having decreased from approximately 16% in 1970, 19% in 1960, and 23% in 1950 (Bixby, 1970; Fisher, 1975); and it has been concluded that more persons over 64 years old are retired now than ever before (Reimers, 1977). The impact of workers who retire prior to age 65 has also increased the size of the retired population. A trend toward retirement at younger ages has been observed (Miller, 1978), and it has been reported that 1974 saw 18% of men with ages of 58 to 63 retired (Schwab, 1974). A summary of early retirement rates among automobile industry workers during the decade ending in 1962 showed increasing rates of early retirement among employees of each of the big three automakers, with the largest increase - 24 fold, to 48% - in early retirement shown by Chrysler employees (Odell, 1965). Estimates of the size of the retired population, often grouping by age and hence including persons who have never held a job from which to retire, are inexact. Even so, it seems clear that the number of retirements is increasing as the number of retirement age persons increases and as a result

of trends toward universal retirement and toward retirement at younger ages. One forecast has predicted that the U.S. population will contain as many as 57 million retirees by the year 2000 (Neugarten, 1975).

Given the large and growing population of retirees, it is no surprise that research interest in retirement has grown; and given the complex nature of retirement in conjunction with the diverse specialty and theoretical backgrounds of researchers interested in retirement, it is no surprise that great diversity of subject and approach has existed in retirement research. It is not the goal of this work to review the full range of previous research in the area of retirement. Retiree characteristics (i.e., age, health, attitudinal make-up, work history, values, etc.), socio-economic factors (i.e., occupation, income, education, social milieu, etc.), controversial subjects (i.e., gender differences, mandatory retirement, retirement impact, etc.), and theoretical paradigms (i.e., role theory, activity/disengagement, continuity, helplessness, etc.) are but a few of the many possible issues and contexts that have occupied researchers interested in retirement. As with most other stages or milestones of human development, the contexts and possibilities for inquiry into retirement are so diverse that identification of an issue and presentation of sufficient background material to justify and understand that issue is more practical and intelligible than a review of

literature on the entire subject of retirement.

This dissertation applies some concepts from the empirical study of psychology to the task of better understanding some behavioral phenomena associated with impending retirement. More specifically, interest in anticipated retirement and pre-retirement morale are examined in relationship to locus of control, a psychological construct developed by J. B. Rotter (1966 & 1975) and elaborated by H. Levenson (1974). In addition, a second psychological variable, social desirability (Crowne & Marlowe, 1960), and two measures of retirement interest are incorporated so that relationships between locus of control and retirement interest may be interpreted by means of limited multitrait-multimethod analysis (Campbell & Fiske, 1959).

Since this dissertation examines locus of control in the context of pre-retirement, it is believed to be a valuable study in two respects. First, the locus of control construct has received considerable attention in recent years as a psychological variable that may be a potent contributor in behavior and a variable that may be conveniently studied (Phares & Lamiell, 1977). As is discussed ahead, associations between locus of control and both interest in the future and affect have been hypothesized. Examining locus of control in relation to morale and retirement interest in a sample of pre-retirees offers opportunities to examine these hypotheses and to explore the contribution

of the locus of control variable to the interests and experience of older persons.

In a second broad respect, this investigation is valuable in so far as it contributes to understanding the experience and actions of persons anticipating retirement. As will be discussed, subjective malaise is common as retirement impends; and interest in retirement seems to be a variable which may bear importantly upon retirement preparation as well as upon pre- and post-retirement wellbeing. Given the hypothesized relevance of locus of control to interest in the future and to affect, an exploration of possible relationships between interest in retirement, pre-retirement morale, and locus of control appears to be a well founded approach to understanding important aspects of pre-retirement living.

1. REVIEW OF LITERATURE

This review section opens with a survey of literature concerned with pre-retirement interest in retirement and morale and with the locus of control construct. Applications of locus of control concepts to pre-retirement interest in retirement and morale are then examined, and the areas of inquiry and hypotheses to be tested in this investigation are discussed.

Pre-retirement

Literature concerning two aspects of pre-retirement is under consideration here, interest in retirement and pre-retirement morale. Although retirement interest has not received direct research attention, the findings of some recent studies incidentally suggest that some pre-retirees are more interested in retirement than others. Since interest in retirement would seem logically to facilitate and/or to be prerequisite to effective planning and preparation for retirement and since retirement preparation and planning have been observed to correlate positively with improved pre- and post-retirement wellbeing, research into retirement interest is warranted.

Insecurity, apprehension, uncertainty, anxiety, and fear of the future have been observed to be related to impending retirement. That a broad range of negatively

valenced affects has been observed in association with impending retirement suggests that poor morale is an important issue in the lives of many pre-retirees and suggests that some general measure of morale could be used to explore this important aspect of pre-retired life. An exploration of pre-retirement morale could be valuable for two reasons. First, if events and psychological variables which correlate with poor pre-retirement morale were identified, then we would be in a better position to develop methods and strategies for improving pre-retirement morale. And second, effective retirement preparation and planning could be facilitated by knowledge that facilitates the development of greater influence over pre-retirement morale. Poor morale seems likely to be one hindrance to preparation and planning for retirement. Consequently, it seems likely that retirement preparation and planning would be facilitated if methods for improving pre-retirement morale were developed.

Interest in Anticipated Retirement

Interest in retirement has not received direct research attention. Nevertheless, there are reasons to believe that some persons who are approaching retirement are more interested in retirement than others. One such reason appears incidentally in the report of a study (Fengler, 1975) that was designed to investigate the retirement attitudes of

spouses of workers who would retire in the near future. As expected, some spouses voiced positive attitudes toward the imminent retirement while others voiced negative attitudes. More surprising was the finding that approximately one-third of the sample expressed no attitude - positive, negative, or ambivalent - toward the impending retirement. Although this finding was not interpreted and although a variety of interpretations are possible (i.e., some subjects distrusted the interviewer; some subjects were inarticulate; some subjects were avoidant of the subject; some subjects did not conceive of themselves as pre-retirees; and so on), one explanation that is both obvious and parsimonious is that approximately one-third of the sample was not sufficiently interested in impending retirement to have formed an attitude. Another reason to believe that some pre-retirees are more interested in retirement than others rests on reports of differences among pre-retirees in desire for and participation in retirement preparation and planning programs (Albrecht, 1969; Charles, 1971; Fillenbaum, 1971). One of many possible explanations for different levels of desire for and participation in retirement preparation and planning programs is that individual pre-retirees differ in their levels of interest in retirement.

The effect of interest in anticipated retirement, independent of its most observed mode of expression (i.e.,

retirement preparation and planning), has not received direct research attention. However, retirement preparation and planning have been associated with a variety of desirable outcomes. The most generally supported conclusion is that preparation for retirement increases knowledge about retirement (Charles, 1971; Glamser & De Jong, 1975; Kasschau, 1974; Milne, 1977; Reid, 1967). The propositions that preparation influences post-retirement activity level (Bowman, 1974), lifestyle (Fisher, 1974), and satisfaction (Reid, 1967) have also received empirical support. Preparation for retirement has reportedly increased involvement with and concern over retirement issues (Charles, 1971; Kasschau, 1974), has been positively associated with improved attitudes toward impending retirement (Glamser, 1976; Milne, 1977; Reid, 1967; Smiley, 1977), and has been observed to contribute to the reduction of fears pertaining to old age and death (Schneider, 1975; Smiley, 1977), to improved self-esteem (Charles, 1971; Smiley, 1977), and to improved personal development and growth toward self-actualization (Meyer, 1975).

These reports of positive pre- and post-retirement effects upon wellbeing of retirement preparation and planning have not gone uncontradicted, and there do seem to be limits to the effectiveness of retirement preparation and planning programs, at least as they have been composed and conducted in the past. It has been suggested that

compensation for life long habits of poor free time use and poor financial planning would be an unrealistic goal for retirement preparation and planning programs (Jacobson, 1974). One study (Bowman, 1974) which reported post-retirement activity level changes associated with retirement preparation and planning also reported failure to obtain changes in pre-retirement attitudes toward retirement. Kasschau (1974), in a review of literature on the subject of retirement preparation and planning programs, concluded that most such programs were effective at prompting and facilitating planning but that they fell short of being powerful influences upon attitudes. Kasschau's explanation was that many retirement preparation and planning programs, especially employer sponsored programs, were brief and impersonal and were, consequently, likely to perform an educational function much better than a counseling or therapeutic function.

Notable by their absence are reports of retirement preparation resulting in harmful, discomfiting, or other undesirable outcomes.

The most conservative conclusion warranted by this body of research is that retirement preparation, at least in some forms and for some persons, is associated with improved wellbeing both before and after retirement. Retirement preparation and planning do not seem to be associated with undesirable outcomes, and it seems likely

that more comprehensive and more individualized planning and preparation programs would yield more benefits and a broader range of benefits to more pre-retirees.

The reports just discussed suggest a relationship between wellbeing and retirement preparation and planning. The question of whether or not wellbeing is associated with interest in anticipated retirement has not been investigated. Nevertheless, retirement interest is observed in this study for two reasons, both of which are founded upon one apparently valid assumption. Assuming that interest in anticipated retirement would facilitate and/or be prerequisite to effective retirement preparation and planning, knowledge about the measurement and correlates of retirement interest would be valuable for two reasons. First, given limited resources to help pre-retirees plan and prepare for retirement, it is desirable to devote those resources to pre-retirees who would profit most from retirement preparation and planning. Knowledge about retirement interest could be an aid to identifying those pre-retirees who would benefit most from retirement preparation and planning programs. Second, given reports of benefits associated with retirement preparation and planning, it is desirable for as many pre-retirees as possible to enjoy those benefits. Retirement preparation and planning programs that incorporate positive influences upon retirement interest in the initial stages of the program seem likely

to be better attended and more effective. The development of positive influences upon retirement interest seems likely to benefit from knowledge about correlates of retirement interest. Thus, information about the measurement and correlates of retirement interest could be useful in allocating retirement preparation and planning services and in improving the utilization and effectiveness of such services.

Morale

Evidence to support the proposition that the years immediately prior to retirement hold anxiety, uncertainty, and fear for many persons comes in both direct and indirect forms. Fear, apprehension, and avoidance of retirement have been associated with impending retirement among older members of religious orders (Hickey, 1972; MacGuigan, 1972); anxiety, insecurity, lowered self-esteem, and feelings of loss and advancing age have been observed in some military officers approaching retirement (Berkey & Stoeber, 1968); proximity to retirement has been associated with a measure of external stress (Lange, 1976); pre-retirees have been observed to display more state anxiety than either retirees or younger workers (Fehrenbach, 1972); and retirees have reported that pre-retirement was a "time fraught with fear of retirement" (Steer, 1973).

Indirect evidence suggesting that the years immediately

prior to retirement are uncomfortable for pre-retirees comes in the forms of widely reported requests for help with retirement planning (Albrecht, 1969; Fillenbaum, 1971; Kalt & Kohn, 1975; Kasschau, 1974) and observed trends toward preference for later retirement associated with increasing age (Ekerdt, Rose, Bosse, & Costa, 1976; Rose & Mogey, 1972).

The proposition that decreasing morale is an issue of special relevance to pre-retirees receives support from observations of a shift in attitude toward retirement from positive to negative as retirement impends. Before retirement is imminent, that is when workers are in their middle years and expect a decade or more of work before retiring, retirement is most often anticipated eagerly and is usually desired at an age earlier than thought financially possible or practical. Labor unions and union members in the U.S. and in Britain have sought provisions for earlier retirement and pensions (Ash, 1966; Economist, 1976; Odell, 1965); Canadians have expressed a positive attitude toward retirement (Kanzak, 1977); and in the U.S., public school employees and industrial workers (Whitt, 1978), university employees performing a variety of jobs (Fillenbaum, 1971), veterans employed by large organizations (Rose & Mogey, 1972), samples of workers in widely mixed occupations (Ekerdt, et al., 1976), and white collar and skilled workers (Kerckhoff, 1964) have all shown a positive attitude toward

retirement rarely colored by serious doubts about the quality of retired life and often accompanied by a clear and strong desire to retire at an earlier age than that at which pension benefits are awarded.

A shift from predominantly positive to more ambivalent and negative attitudes toward retirement seems to occur for many workers as retirement becomes more imminent. Workers in their late 50's and early 60's, or some 5 years prior to retirement, were observed to develop a preference for later retirement (Ekerdt, et al., 1976); a group of administrators and professionals in their 60's were found to be reluctant to anticipate retirement (Mark, 1972); a group of managers 4 to 7 years from retirement were seen to develop worry over impending retirement (Wexley, et al., 1975); working college faculty members within 3 years of retirement displayed more state anxiety than their colleagues who were either retired or expecting less imminent retirement (Fehrenbach, 1973); and the portion of one labor union's members who desired to continue working was seen to rise (to 31% at age 64) as increasingly older workers were polled (Ash, 1966).

Given direct observations of pre-retirement malaise, indirect indications of pre-retirement distress, and evidence of a positive to negative shift in attitude toward retirement as retirement approaches, it seems likely that impending retirement is a time of discomfort for many

pre-retirees. That a relationship between impending retirement and poorer morale is the root of that discomfort is, of course, not proven; there are other possible explanations (i.e., a relationship between increasing age, poorer health, and poorer morale; a relationship between increasing or stable job demands, decreasing capacity for work, and poorer morale). Nevertheless, the proposition that impending retirement is associated with poorer morale has not been ruled out, and pre-retirement morale is deserving of additional research attention.

Locus of Control

Locus of control is a psychological construct initially developed and formally discussed by J. B. Rotter (1966 & 1975). Locus of control refers to a "generalized attitude, belief, or expectancy" (Rotter, 1966, p2) which differs between individuals (Rotter, 1966 & 1975), which may be thought of as a personality characteristic (Rotter, 1975), and which is predictive of behavior in a variety of circumstances when validly measured (Rotter, 1966).

A locus of control belief is an attribution of control over reinforcement. Locus of control beliefs range from attributions of control to an internal locus (influence over reinforcement vested with the believer) to attributions of control to an external locus (control attributed to such agents external to the believer as chance, powerful

others, or situations so complex as to be beyond the believer's understanding or influence) (Rotter, 1966). Locus of control beliefs are thought of as specific (to one situation or one differentiated class of similar situations) and as generalized attributions (which come into play more actively in situations which are more novel or ambiguous) (Rotter, 1975). Generalized locus of control attributions, which influence behavior in a variety of different circumstances, may be thought of as one characteristic of individual personalities.

Generalized locus of control has been measured reliably by a variety of methods; and evidence of predictive, construct, and discriminant validity for measures of and for the construct of locus of control have been gathered (Rotter, 1966). Strong support for the hypotheses that an individual attributing control more internally is more "alert to those aspects of his environment which provide useful information for his future behavior" and is more likely to "take steps to improve his environmental condition" (including the step of seeking information) than is an individual attributing control more externally has also been gathered (Rotter, 1966, p25).

Associations between locus of control, as conceived and measured by J. B. Rotter, and behavior deemed indicative of internal-external control have been inconsistent (Rotter, 1975). Social involvement and information

gathering are behaviors which should be associated with internal locus of control, according to Rotter's conceptualization; but among some groups, higher social involvement and information gathering were associated with scoring in the external direction on the Rotter I-E continuum.

Taking note of the unexpected correlations between internal behaviors and external scoring on the Rotter I-E scale and citing conceptual difficulties with Rotter's construct of locus of control, Levenson (1974) developed an elaboration of the locus of control construct. Rotter describes and measures locus of control as if it were a unidimensional variable; low internal attribution is equated with high and undifferentiated external attribution. Levenson's elaboration treats locus of control as if it were a tri-dimensional variable. External locus of control is differentiated into attribution of control to powerful others and attribution of control to chance, while internal locus of control is treated as a third independent variable representing attribution of control to the attributor. Thus, in Levenson's elaboration, internal locus of control, powerful other locus of control, and chance locus of control are conceived of as independent variables.

Levenson's measurement of locus of control reflects the differentiation of locus of control from a single variable to a three independent variable construct. In contrast to Rotter's I-E scale which yields a single

I-E score, Levenson's measurement technique yields three scores (internal, powerful other, and chance) which may vary independently. Levenson's elaboration of the locus of control construct was developed before Rotter differentiated specific from generalized locus of control (1975), and the Levenson formulation does not formally differentiate specific from generalized attributions of control. Nevertheless, the Levenson locus of control scales appear to be suitable measures of generalized locus of control. Most items are phrased in general terms, and a variety of activities and situations are given as contents for the attribution of control.

A test of Levenson's elaboration turned up two interesting findings (Levenson, 1974). First, the measures of powerful other locus of control and chance locus of control were observed to intercorrelate significantly. Second and in spite of a significant correlation between powerful other locus of control and chance locus of control scores, powerful other and chance locus of control did not associate similarly with social involvement and information gathering. Rather, only chance locus of control associated significantly (negatively) with social involvement and information gathering while internal locus of control and powerful other locus of control associated similarly (non-significantly) with social involvement and information gathering.

Pre-retirement and Locus of Control

Applications of concepts from the locus of control construct to pre-retirement phenomena appear to offer opportunities for valuable research in two broad areas. Reproduction of a previously reported internal locus of control/interest in the future relationship with data from a largely unexamined population is possible, and an exploration of variables which may be relevant to the wellbeing of an age group which is increasing in size and importance may be conducted.

Locus of Control/Interest in the Future Relationship

Rotter has argued and cited data to support the hypothesis that persons making more internal generalized locus of control attributions are more interested in and attempt more actively to influence their futures than persons who make less internal or more external attributions (Rotter, 1966). That generalized locus of control exerts greater influence over behavior in situations which are more novel or ambiguous is the major stated limitation to the action of generalized locus of control (Rotter, 1975) and would be the major stated limitation to an effort to reproduce the reported relationship between interest in the future and internal locus of control.

Anticipated retirement appears to be a condition particularly well suited to reproduction of this internal

locus of control/interest in the future relationship. Given reports of uncertainty in the face of impending retirement (Groen, 1978) and an a priori appreciation for the superficially large differences between employed and retired living, the requirement of novelty and ambiguity for best observation of generalized locus of control effects appears to be well satisfied.

Locus of Control and Pre-retirement Morale

Locus of control has not been related theoretically to a variable labelled "morale." Nevertheless, an exploration of the relationship between morale and locus of control appears to be worthwhile. Relationships between locus of control and a variety of affects have been hypothesized. The affects hypothesized to be related to locus of control have carried numerous labels (i.e., "distress," "threat," "unpleasant experience," "depressed affect," and so on); and no consensus has been reached about which affects might and which affects might not be related to locus of control. Consequently, there is no reason to believe that an exploration of the relationship between morale and locus of control would not shed light upon the relationship of affect to locus of control.

No single relationship between locus of control and affect has been hypothesized or has found unqualified support. Two possible relationships have been suggested

by Rotter. Attributions of internal control could lead to distress when those attributions are contradicted by uncontrollable circumstances or failure; but then again, contradicting circumstances could threaten a person making internal attributions and thereby motivate increased internal attribution and repression of unpleasant experience (Rotter, 1966 & 1975). Of course, other relationships are conceivable. For an extreme example, realistic attribution of control to powerful others who are exploitive could be associated with material deprivation and, consequently, with negative affect.

A recent reformulation of the learned helplessness hypothesis (Abramson, Seligman, & Teasdale, 1978) suggests still another relationship between locus of control and affect. Abramson et al. argue that the extent to which a person experiences negative affect and lowered self-esteem in response to helplessness (the perception that outcomes are not contingent upon one's behavior) is, in part, dependent upon the attributions of control which a person makes. When confronted with aversive outcomes in situations of helplessness, it is suggested, persons who make internal attributions are likely to experience depressed affect of greater intensity and greater loss of self-esteem than are persons who make external attributions.

Two lines of thought are employed by Abramson et al. to support this hypothesized positive relationship between

internal locus of control and intensity of negative affect. First, it is argued that helplessness which is perceived as universal (i.e., helplessness which is attributed to conditions beyond the control of any relevant person; an attribution of control to external loci) elicits less intense negative affect and lowers self-esteem to a lesser extent than helplessness which is perceived as personal (i.e., helplessness which is attributed to conditions beyond the control of the helpless individual, himself, but that are subject to control by other, similar persons; personal helplessness is said to reflect attribution of control to an internal locus). The second argument used to support the hypothesized positive relationship between internal locus of control and intensity of negative affect and loss of self-esteem rests on observations that depressed persons commonly believe that they cause their own failures; depressed persons are characterized as "systematically generating more internal .... attributions for failure" (Abramson, Seligman, & Teasdale, 1978, p67).

There are two problems in the Abramson et al. reformulation of the helplessness hypothesis that limit a test of the role of locus of control as one variable that moderates the effect of helplessness upon the intensity of negative affect. The first problem is conceptual. When Abramson et al. refer to external or internal attributions, they seem to refer to attributions of control over

punishment. (The withdrawal of desired stimuli or presentation of aversive stimuli are punishments in Skinner's formulations and are differentiated from reinforcements which are the presentation of desired stimuli or the abatement of aversive stimuli.) Rotter's conceptualization and measurement of locus of control, and apparently Levenson's as well, are of attributions of control over reinforcement. Whether control over reinforcement would be related to negative affect in the same way that control over punishment is hypothesized by Abramson et al. to relate to negative affect is an open question which would require development of scales designed specifically to measure attribution of control over reinforcement and attribution of control over punishment.

The second problem encountered in a clear test of the locus of control aspect of the Abramson et al. reformulation of the helplessness hypothesis is procedural. Other aspects of helplessness situations (i.e., the likelihood of desired or aversive outcomes and the importance of those outcomes to the helpless person), in addition to attribution of control over punishment, are presumed to influence the extent of negative affect. Consequently, procedures for observing and/or controlling expectations for the occurrence of outcomes and for observing and/or controlling the meanings of outcomes would be required before one could accurately assess the relationship of

locus of control to negative affect. In addition, the Abramson et al. reformulation posits locus of control effects upon affect only under conditions of helplessness. Consequently, a clear test of the hypothesized relationship between locus of control and negative affect would require procedures for controlling helplessness as well. Thus, procedures for controlling expectations regarding the occurrence of outcomes, for controlling the meanings of outcomes, and for creating comparable states of helplessness would be called for before one could validly observe a relationship between affect and attribution of control (over reinforcement or punishment), as that relationship is hypothesized by Abramson et al. (1978).

The procedures described above are beyond the reach of a study conducted in naturalistic, individual settings and outside the psychological laboratory. Additionally, measures of attribution of control over punishment have not yet been developed; and measures of attribution of control over reinforcement, which are available, must be used in their place. Nevertheless, the Abramson et al. hypothesis positively relating internal locus of control to intensity of negative affect constitutes one possible perspective from which to interpret the findings of a study such as this one which examines attributions of control over reinforcement and morale in individual pre-retirees in their natural settings.

By exploring locus of control in relation to pre-retirement morale, it is possible that additional light could be shed on the relationship of locus of control to affect; and a search for correlates of pre-retirement morale could open the way to development of methods and strategies for influencing the morale of pre-retirees.

Hypotheses and Area of Exploration

This study offers both an opportunity to reproduce the hypothesized relationship between generalized locus of control and interest in the future and an opportunity to explore aspects of pre-retirement morale.

Locus of Control/Interest in the Future Reproduction

Reproduction of the reported positive association between generalized internal locus of control and interest in the future is attempted by examining associations between interest in retirement and internal locus of control, powerful other locus of control, and chance locus of control as measured by the Levenson (1974) locus of control scales. In contrast to the Rotter I-E scale, which yields a single score representing placement on an internal-external continuum, the Levenson scales yield three scores which represent attribution of control to three different loci: internal, powerful other, and chance. Consequently, a single correlation between retirement interest and

internal-external locus of control, replicating correlations between I-E locus of control and interest in the future generated by Rotter, is not provided by this study.

In lieu of a single association between internal-external locus of control and retirement interest, this study examines three associations: the associations between retirement interest and internal locus of control, powerful other locus of control, and chance locus of control. If the positive association between internal locus of control and interest in the future which Rotter reported (1966) is to be reproduced with the Levenson (1974) scales and with scores from a group of pre-retirees, then the correlations between retirement interest and internal locus of control scores should be more positive than the correlations between retirement interest and powerful other locus of control scores and chance locus of control scores.

Pre-retirement Morale Exploration

The other major focus of this study is an exploration of pre-retirement morale. Data relevant to the following topics are gathered:

1) The morale characteristics of a sample of pre-retirees.
2) The relationship between retirement interest and morale.
3) The relationship between morale and imminent retirement.
4) The relationship between locus of control and morale.

2. DESIGN, METHOD AND PROCEDURE

Design

This study employs a correlational design wherein relationships between pre-retirement morale, retirement interest, and locus of control are of primary interest. As discussed earlier, previous research suggests that some of these variables would be associated, especially under conditions of impending retirement.

In order to allow application of multitrait-multimethod analysis to the task of interpreting associations between variables, psychological trait measures in addition to those measures of original interest are incorporated. Retirement interest is measured by two methods and the social desirability response set is measured. By using two methods of measurement for retirement interest and by measuring another variable (i.e., social desirability) not theoretically connected with morale, retirement interest, or locus of control measures, data minimally sufficient for applying multitrait-multimethod analysis (Campbell & Fiske, 1959) to the task of interpreting associations between the variables of interest are gathered.

Multitrait-multimethod analysis as presented by Campbell and Fiske (1959) may be applied to two topics addressed in this study. First, validity of the trait, retirement interest, may be evaluated with respect to four

criteria for convergent and discriminant validity; and, second, differences between correlations may be examined for differences which exceed differences attributable to measurement method variability.

To demonstrate convergent and discriminant validity for a trait, four criteria must be met (Campbell & Fiske, 1959, p82-83); and those criteria are applied to correlations of retirement interest with other variables in this study. First, the two measures of retirement interest should correlate significantly. Second, the two measures of retirement interest should correlate more highly with one another than with other measures having neither trait nor method of measurement in common. Third, the two measures of retirement interest should correlate more highly with one another than with other traits which employ the same method of measurement. Finally, the same pattern of intercorrelation between retirement interest and the other traits should appear when different methods of measuring retirement interest are employed.

Differences between correlations comprise some of the data which are used to interpret the relationship between retirement interest and locus of control. To review, the correlations between retirement interest and internal locus of control should be more positive than the correlations between retirement interest and powerful other locus of control and more positive than correlations between

retirement interest and chance locus of control if the positive relationship between future interest and internal locus of control is to be reproduced. One way to evaluate differences between correlations is to test them for statistical significance by calculating Hotelling's test for differences between non-independent r's (Edwards, 1963). A second way to evaluate differences between correlations is to examine a multitrait-multimethod correlation matrix. Campbell and Fiske (1959) point out that differences between correlations may arise from two sources: differences attributable to variability of trait interrelationships and differences attributable to variability of trait measurement methods. Method of measurement variability is indicated by the difference between correlations of two measures of the same trait with measures of other traits (Campbell & Fiske, 1959, p85). When differences between correlations exceed differences attributable to method of measurement variability, they cannot be wholly attributed to method of measurement variability. Thus, it is reasonable to assume that those differences which exceed differences attributable to method of measurement variability represent the other identified source of differences between correlations, that is variability of trait interrelationships. And thus, correlational differences between traits which exceed differences attributable to method of measurement are noteworthy, albeit not statistically significant.

Given this design allowing multitrait-multimethod analysis, there are two sets of criteria for judging whether or not the positive association between internal locus of control and retirement interest, a special case of interest in the future, has been reproduced. The following hypotheses must be sustained if the positive association between internal locus of control and interest in the future is to be fully reproduced.

H_1 a. The correlations between the internal locus of control measure and the retirement interest measures are significantly more positive than the correlations between the powerful other locus of control measure and the retirement interest measures.

b. The correlations between the internal locus of control measure and the retirement interest measures are more positive than the correlations between the powerful other locus of control measure and the retirement interest measures by a margin greater than the difference between correlations of the two retirement interest measures with any of the other measures.

H_2 a. The correlations between the internal locus of control measure and the retirement interest measures are significantly more positive than the correlations between the chance locus of control measure and the retirement interest measures.

b. The correlations between the internal locus of control measure and the retirement interest measures are more positive than the correlations between the chance locus of control measure and the retirement interest measures by a margin greater than the difference between correlations of the two retirement interest measures with any of the other measures.

Subjects

Persons expected to retire within two years were sought to comprise the sample. The two year pre-retirement cutoff was selected in an effort to maximize observable pre-retirement effects and to facilitate generalization of findings to groups of persons most likely to be involved with retirement issues. Pre-retirement effects have been observed as many as three years prior to retirement (Fehrenbach, 1972); and it seemed reasonable to believe that other populations to which the findings of this study might be applied could be identified and investigated or influenced during the two year period prior to retirement. As will be discussed in the results section, the desired sample was not recruited.

Prospective subjects were identified by church and professional organization officers and by fellow workers. Contact was made in person or by telephone, the purpose and procedure of the study were explained, and the names

and addresses of persons with whom they were associated and whom they believed to be within two years of retirement were requested. When contact persons expressed doubt about the retirement status of their associates, best impressions were solicited; and when concerns about confidentiality were expressed, a guarantee of their own anonimity and an explanation of provisions for the confidential treatment of information provided by their associates were made. In this manner approximately 65 contacts were made and a list of 421 prospective subjects was generated.

Measures

Paper and pencil measures of six variables -- morale, generalized locus of control, social desirability, retirement interest, time to retirement, and sociological characteristics -- provided data for study. The instruments chosen to measure these variables are discussed below, and an example of the entire questionnaire as presented to the prospective subjects may be found in Appendix A.

Locus of Control

The Levenson (1974) locus of control scales were the locus of control measures used. A tri-dimensional instrument independently measuring attribution of control to internal, powerful other, and chance agents, it was chosen over the Rotter I-E scale for two broad reasons. First, it was hoped that associations between locus of control

and pre-retirement phenomena would be more easily interpreted if the Levenson scales were used. For example, failure to attribute control to an internal locus could imply attribution of control either to chance, thus allowing no avenue of influence, or could imply attribution of control to powerful others, thus allowing the option of persuasion and therefore one possible avenue of influence. The unidimensional Rotter I-E scale equates low internal attribution with high and undifferentiated external attribution and consequently has yielded unexpected correlations between external attributions and behaviors more consonant with internal attributions of control (Rotter, 1975).

The second reason for choosing the Levenson over the Rotter instrument stems from the belief that the Levenson scales would be more readily accepted. The Levenson instrument utilizes a Likert format, whereas the Rotter scale calls for a series of forced choices. It has been observed that the Rotter I-E scale, with its forced choice format, elicits unfavorable comments and resistance from subjects (Priscilla White, personal communication, 1980).

The Levenson locus of control instrument has been evaluated for reliability and validity by the multitrait-multimethod approach with data from an older sample; and it performed well in most respects, with the exception that the powerful other and chance scales intercorrelated significantly (Lachman, 1978).

Morale

The Revised Pittsburg Geriatric Center Morale Scale (Lawton, 1975) was the morale measure used. This measure of morale was developed upon the assumption that morale scales which employ easy response formats and wording are most useful with older subjects, and it was refined and validated using data from a large sample of older persons. The PGC Morale Scale offers subscales measuring three factors of morale -- Agitation, Attitude toward Own Aging, and Lonely Dissatisfaction -- which have been replicated by additional factor analysis (Morris & Sherwood, 1975). One of the subscales, Attitude toward Own Aging, has demonstrated convergent and discriminant validity when evaluated by multitrait-multimethod analysis (Lachman, 1978).

Social Desirability

Social desirability was measured with the M-C SDS, a social desirability scale developed by Crowne and Marlowe (1960) along the lines of the MMPI "Lie" scale. The M-C SDS has drawn criticism for merely measuring a tendency to falsify answers (Edwards, Diers, & Walker, 1962). Although lying may be the behavior measured by the Crowne-Marlowe scale, it seems to be lying in service of socially desirable self description. Moreover, the M-C SDS measures a response set highly active in some self ratings and reports by older persons (Haas-Lephardt, 1978).

Interest in Retirement

Interest in retirement was estimated with an eight item scale in a Likert type format. No psychometric refinement or evaluation has been performed upon this measure; and, consequently, it depends heavily upon its face validity for acceptance. Items were balanced as to the direction scaled, and a broad range of expressions of retirement interest were examined.

The eight item interest in retirement scale may be found in Appendix A. To arrive at an interest in retirement score, scores for items 3, 5, 6, and 8 are summed, the sign of that sum reversed, and that reversed sign sum added to the sum of scores for items 1, 2, 4, and 7. The resulting interest in retirement questionnaire score may range from 0 to 48 with higher scores representing greater interest in retirement.

A second approach to estimating retirement interest was also employed utilizing a summary self rating of retirement interest. This item may also be found in Appendix A.

Time to Retirement

Time to retirement was examined primarily to permit selection of a sample of persons for whom retirement was a relatively imminent possibility. In accordance with a recent and well accepted definition (Atchley, 1976), retirement was defined as withdrawal from full time employment

combined with eligibility for pension or retirement benefit payments. Subjects were asked to estimate the time that would pass before they retired and to rate their confidence in that estimate.

Demographic Characteristics

Data on subjects' demographic characteristics were sought so that the sample could be described and checked for random sampling. Items seeking self report data on age, gender, race, occupational level, educational level, and income were included in the questionnaire.

Procedure

A list of prospective subjects who were expected to retire within two years was compiled with the help of five churches and one professional association in the Memphis area. Persons on the prospect list were contacted by mail. A cover letter, accompanied by the research questionnaire, provided the essentials of informed consent; and prospective subjects were asked to signal their consent to participate in the project by completing and returning the questionnaire. Compensation for participation was limited to offers of a summary of findings and acknowledgement of the subject's participation published in the dissertation. Postage was pre-paid on all subject correspondence.

Samples of the solicitation letter and of the research questionnaire are presented in Appendix A.

Data Analysis

With exception of the Hotelling tests for differences between non-independent *r*'s (described later), data were analyzed at the University of Tennessee Computer Center with the Statistical Analysis System program (SAS Institute INC., SAS Circle, Box 8000, Cary, NC, 27511). Two methods of statistical analysis were employed.

Pearson product-moment correlation coefficients (*r*'s) were used to examine the associations between locus of control and retirement interest measures. Pearson *r*'s were computed for relationships between the Levenson locus of control scales (*I* for internal, *P* for powerful other, and *C* for chance), the Marlowe-Crowne Social Desirability Scale (*M-C SDS*), and the two measures of retirement interest (*RI8* for the 8 item Likert format measure and *RIRATE* for the summary self rating). Differences between correlations relevant to the locus of control/retirement interest hypotheses were tested for significance with Hotelling's test for differences between non-independent *r*'s (Edwards, 1963). The Pearson *r*'s were also arranged in a multitrait-multimethod correlation matrix for evaluation in the manner desribed earlier. Finally, since certain demographic characteristics were significantly interrelated, partial correlations between retirement interest and the locus of control scales and social desirability, controlling for

age, gender, marital status, income, and time to retirement were calculated.

To explore pre-retirement morale, multiple regression statistical analyses were computed to identify those variables most powerfully related to morale. The SAS minimum R Square improvement technique of multiple regression (MINR) was selected because it not only yields best predictive models incorporating successively more variables but also yields R Squares for each variable individually (SAS, 1979). In solving for the best predictive model, the SAS MINR program enters independent variables into the solution in order according to the size of the obtained R Square; independent variables yielding the smallest R Squares are entered first and are then dropped from the solution if subsequently entered independent variables yield higher R Square solutions. In this manner, the SAS MINR program generates a series of best R Square solutions for a given dependent variable, each of which incorporates an additional independent variable. Thus, the best one independent variable, the best two independent variable, the best three independent variable (and so on) solutions are generated.

There are two major benefits to the MINR technique. First, the results of the one independent variable solution calculations allow comparison of the associations between a dependent variable and a number of independent variables.

The independent variables yielding the highest R Square solutions for the dependent variable are the independent variables most powerfully associated with the dependent variable. Second, since the MINR technique yields solutions incorporating successively more independent variables, a model which includes only the independent variables which are more predictive than chance and models yielding improved R Squares may be identified. Thus, the MINR technique allows one to select the regression model which makes most efficient use of the available independent variables to predict the dependent variable.

3. FINDINGS

This section opens with a report of the subject recruitment effort and a description of the resultant sample. As noted earlier, the sample recruited was different from the sample desired in numerous ways; and a description of the resultant sample not only allows the findings to be placed in perspective but also raises questions relevant to researchers and practitioners interested in retirement. Following the report on sample characteristics are reports of findings relevant to the locus of control/retirement interest and pre-retirement morale investigations.

Sample Characteristics

In November, 1980, 421 persons identified by co-workers, church officers, or professional association officers as likely to be within two years of retirement were mailed a packet containing a cover letter, a copy of the pre-retirement research questionnaire, and a postage paid return envelope. One packet was returned marked undeliverable. Ninety-four persons, whose self reported time to retirement varied from already retired to more than 20 years to retirement, returned questionnaires which varied in completeness from responses to all items to response to no item. The resulting sample was not representative of the national population of pre-retirees with regard to demographic variables.

Since many persons provided incomplete questionnaires, N's for correlations and other statistical analyses shrank as more variables were simultaneously considered. Therefore, N's for all analyses are reported; and statistics that are comparable by virtue of a common data set are so identified. Statistical operations were performed at the University of Tennessee Computer Center, and the program used was the Statistical Analysis System (SAS Institute INC., SAS Circle, BOX 8000, Cary, NC, 27511).

Information about the 421 prospective subjects was limited to name, address, and one religious or professional affiliation. Consequently, inferences about the larger group of potential subjects based on information obtained from the respondents could not be checked and should be considered speculative.

Estimated Time to Retirement

Eighty-two questionnaires (87%) contained time to retirement estimates, and that data is displayed in Table 1. Seven persons reported that they were already retired, for periods ranging from 3 months to 8 years; and 23 respondents estimated retirement to be at least 5 years off. Of the 94 respondents, 26 (28%) met the desired recruitment and selection criterion by estimating retirement to be less than 2 years away.

TABLE 1

Time to Retirement Estimates of the Ninety-four Respondents

Estimated Time to Retirement	Number of S's
Already retired	7
Less than 2 years	26
2 years to 4 years	14
4 years to 6 years	18
6 years to 8 years	8
8 years to 20 years	9
No estimate	12
Mean (years)*	4.5
SD (years)*	3.8

* Mean and standard deviation taken from data provided by 75 subjects who had not yet retired and who estimated time to retirement.

These results indicate that estimates of time to retirement by church and professional associates and by co-workers are apt to be inaccurate. Of course, persons closer to retirement may have been disproportionately less willing to return the pre-retirement research questionnaire; and the actual miss rate on time to retirement estimation may have been much lower than the 72% reflected in the obtained sample. Nevertheless, in light of the large number of estimates greater than 4 years and the 7 respondents

already retired, it appears that impressions of the retirement plans and status of associates and co-workers are apt to be inaccurate to a considerable degree.

Incomplete Questionnaires

Of the 87 respondents who had not yet retired, 35 (40%) provided sufficient information to arrive at a score for all variables examined. Table 2 displays the variables, in the order in which they appeared in the questionnaire, with the number and percentage of not yet retired subjects who provided data on each variable.

TABLE 2

Not Yet Retired Subjects Reporting Data on Questionnaire Variables

Variable	Number Reporting	Percent Reporting
Age	80	92
Gender	85	98
Race	84	97
Marital status	85	98
Time to retirement	75	86
Confidence, time to retirement	78	90
Occupation	85	98
Income	79	91
Education	78	90
Locus of control	82	94
Interest in retirement (all 8 items)	82	94
Interest in retirement (self rating)	56	64
PGC Morale	80	92
M-C SDS	77	89

Note. N=87.

Except for interest in retirement measured by summary self rating, responding on all variables was good, ranging from 86% to 98%. The item calling for a summary self rating of retirement interest was skipped by 36% of the pre-retirees, and it was skipped twice as often as the next most frequently unanswered item.

Demographic Characteristics

Frequency counts by age range, gender, race, marital status, occupation, income, and education for the sample of not yet retired subjects are presented in Table 3. It can be easily seen that women, whites, married persons, professionals, modest to moderate incomes, and high educational achievement were predominantly represented in this sample.

Chi-square statistics revealed relationships, significant at the .05 level of probability, between some of the pairs of demographic variables as displayed in Table 4. Subjects with greater ages tended to be male, were less likely to be professionals, and were likely to have less education. Male subjects tended to be older, were less likely to be non-white, were more likely to be currently married, were less likely to have professional occupations, and were more likely to have higher incomes and less education. Non-white subjects were more likely to be female, were less likely to be currently married, and were likely to have

TABLE 3

Demographic Characteristics of Subjects
Not Yet Retired

Variables	Number of S's
Age (years)	
45-49	10
50-54	12
55-59	22
60-64	25
65-69	8
70+	3
not reported	7
Gender	
male	33
female	52
not reported	2
Race	
black	29
white	54
other	1
not reported	3
Marital status	
married	62
divorced	10
widowed	10
never married	3
not reported	2
Occupation	
professional	67
management	9
farmer	3
self-employed	3
other	3
not reported	2
Income	
less than 10,000	7
10,000 to 14,999	37
15,000 to 19,999	18
20,000 to 24,999	5
more than 25,000	12
not reported	8
Education	
high school or less	6
some college	8
completed college	19
graduate or professional study	40
doctorate	5
not reported	9

Note. N=87.

TABLE 4

Significant Relationships Between
Demographic Variables

Variable	Age	Gender	Race	Marital Status	Occupation	Income	Education
Age		12.7* (6)	10.5 (12)	20.1 (18)	84.0* (30)	36.7 (30)	81.5* (25)
Gender	12.7* (6)		13.3* (2)	20.0* (3)	19.1* (6)	30.5* (6)	22.9* (5)
Race	10.5 (12)	13.3* (2)		15.0* (6)	9.6 (12)	24.1* (12)	14.4 (10)
Marital Status	20.1 (18)	20.0* (3)	15.0* (6)		15.0 (18)	18.6 (18)	7.0 (15)
Occupation	84.0* (30)	19.1* (6)	9.6 (12)	15.0 (18)		64.8* (36)	100.1* (30)
Income	36.7 (30)	30.5* (6)	24.1* (12)	18.6 (18)	64.8* (36)		68.0* (30)
Education	81.5* (25)	22.9* (5)	14.4 (10)	7.0 (15)	100.1* (30)	68.0* (30)	

Note. Chi-square statistic. Degrees of freedom in parentheses.
* p .05.

smaller incomes. Single subjects were more likely to be female and to be non-white. Subjects with professional occupations tended to be younger, tended to be female, tended to have smaller incomes, and tended to be better educated. Subjects with larger incomes tended to be male, tended to be white, tended to have business or sales occupations, and tended to have less education. Subjects with greater education tended to be younger, tended to be female, tended to have professional occupations, and tended to have smaller incomes.

Interest in Retirement, Locus of Control, and Social Desirability

To review, it was hypothesized that internal, powerful other, and chance locus of control as measured by Levenson (1974) would be differentially associated with retirement interest, a special case of interest in the future. Two measures of retirement interest were used; and social desirability (Crowne & Marlowe, 1960), a second trait in addition to the three measures of locus of control, was examined. By using more than one measure of retirement interest and by measuring social desirability, minimal requirements were met for applying multitrait-multimethod analysis (Campbell & Fiske, 1959) to the task of interpreting relationships between locus of control and retirement interest measures.

Pearson product-moment correlation coefficients (r's) were computed for relationships between the Levenson locus of control scales (I for internal, P for powerful other, and C for chance), the Marlowe-Crowne Social Desirability Scale (M-C SDS), and the two measures of retirement interest (RI8 for the 8 item Likert format measure and RIRATE for the summary self rating). Scores on all six variables were available for 51 subjects who had not yet retired. The correlation matrix presented in Table 5 was derived from these scores. Table 6 contains an array of differences between selected correlations. The differences between correlations displayed in Table 6 are those differences which are relevant to the locus of control/retirement interest hypotheses. They are presented in the form of Table 6 to facilitate interpretation of relationships between variables with multitrait-multimethod analysis.

Since time to retirement and certain demographic variables were significantly interrelated, partial correlations between retirement interest and the measures of locus of control and social desirability controlling for age, gender, marital status, income, and time to retirement were calculated for the sample of 40 pre-retirees who provided data on all of these variables. This set of partial correlations is presented in Table 7.

TABLE 5

r Correlation Matrix: Internal (I), Powerful Other (P), Chance (C) Locus of Control, Marlowe-Crowne Social Desirability Scale (M-C SDS), and Interest in Retirement (RI8 and RIRATE)

Variables	I	P	C	M-C SDS	RI8
P	-.01				
C	-.20	.64*			
M-C SDS	.05	-.13	-.01		
RI8	.21	.10	-.10	-.12	
RIRATE	.25	.12	-.14	-.24	.65*

Note. Comparable correlations; N=51 S's not yet retired.

* $p < .05$.

TABLE 6

Differences Between Selected Correlations: Internal (I), Powerful Other (P), Chance (C) Locus of Control and Marlowe-Crowne Social Desirability Scale (M-C SDS) X Retirement Interest (RI8 and RIRATE)

r: A X B	RI8 X I	RI8 X P	RI8 X C	RI8 X M-C SDS	RIRATE X I	RIRATE X P	RIRATE X C
RI8 X P	.11						
RI8 X C	.31*	.20*					
RI8 X M-C SDS	.34**	.22	.02				
RIRATE X I	.04						
RIRATE X P		.02			.13		
RIRATE X C			.05		.40**	.27**	
RIRATE X M-C SDS				.12	.49**	.36**	.09

Note. Significance of differences between r's was tested by computation of Hotelling's test for differences between non-independent r's (Edwards, 1963).

* $p<.10$
** $p<.05$

TABLE 7

Partial Correlations: Interest in Retirement X Locus of Control and Social Desirability, Controlled for Time to Retirement and Demographic Variables

Variables	RI8	RIRATE
I	-.014	-.001
P	-.018	-.069
C	-.126	-.151
M-C SDS	-.092	-.176

Note. All partial correlations not significant at the .3 probability level. N=40.

Interpreting the Correlation Matrix

The correlations in Table 5 may be interpreted from two perspectives. The stated hypotheses may be tested by comparing the relevant correlations and testing the differences for significance; and evaluation of the matrix may be made with reference to differences between correlations which exceed differences attributable to method of measurement variability.

Inspection of Table 5 reveals that interest in retirement was non-significantly correlated with internal, powerful other, and chance locus of control in the expected directions for both measures of retirement interest. Internal locus of control scores were more positively

associated with retirement interest scores than were powerful other or chance locus of control scores. However, inspection of Table 6 reveals that the differences were not all statistically significant. For neither measure of retirement interest did the differences between internal locus of control X retirement interest and powerful other locus of control X retirement interest correlations approach significance. The differences between internal locus of control X retirement interest and the chance locus of control X retirement interest correlations were statistically significant for one measure of retirement interest (RIRATE) and approached significance ($p<.10$) for the other retirement interest measure (RI8), however; and powerful other locus of control X retirement interest and chance locus of control X retirement interest correlations followed the same pattern of difference. Thus, for both measures of interest in retirement, retirement interest was correlated in the expected directions with internal, powerful other, and chance locus of control; though the differences between internal locus of control X retirement interest, powerful other locus of control X retirement interest, and chance locus of control X retirement interest correlations were not consistently statistically significant. The differences between internal locus of control X retirement interest and chance locus of control X retirement interest correlations approached statistical significance with one measure of retirement

interest and reached statistical significance with the other measure of interest in retirement.

Only the M-C SDS correlations with both measures of retirement interest were significantly different at the .05 level of probability from the internal locus of control X retirement interest correlations for both measures of retirement interest.

The correlation matrix in Table 5 may be evaluated by reference to some criteria developed to evaluate multitrait-multimethod matrices and by reference to the line of thought that contributed to those criteria (Campbell & Fiske, 1959). Table 5 contains sufficient information to apply four criteria for validation of the trait, interest in retirement. In addition, the concept of comparing method of measurement variability to trait variability may be applied to the task of interpreting correlation differences relevant to the interest in retirement/locus of control relationship.

Interest in retirement met the first and third criteria for trait validation. That is, the two measures of retirement interest correlated significantly and correlated more highly with one another than with measures of other traits which employed the same method of measurement. In so far as the necessary information was available, the trait also met the second and fourth criteria. That is, the measures of interest in retirement intercorrelated

more highly than either measure correlated with any measure sharing neither trait nor method of measurement; and the patterns of correlations between retirement interest and the other variables were the same for both measures of retirement interest. Thus, interest in retirement may be said to display minimally both convergent and discriminant validity as an independent trait. That is, the two measures of retirement interest intercorrelated satisfactorily and did not correlate indiscriminantly with measures of other traits.

In interpreting correlations, it should be remembered that method of measurement variability as well as trait relationships may contribute to a correlation and that one way to assess the effect of measurement variability is to observe the differences between correlations of one trait measured by more than one method with other traits. Those differences may be taken to indicate variability attributable to method of measurement characteristics (Campbell & Fiske, 1959, p85). Given this indication of method variability, it is reasonable to require that differences between correlations of one trait with another trait be higher than differences attributable to method of measurement variability before the trait correlation differences are taken seriously. Further, it is reasonable to conclude that trait correlation differences which exceed differences attributable to method of measurement

variability, especially when they do so consistently across methods, are worthy of note as possibly valid indicators of differences between relationships.

By referring to Table 6, it may be observed that the largest difference between correlations of the two retirement interest measures with the variables I, P, C, and M-C SDS was .12, in the case of M-C SDS. Thus, .12 was the largest difference between correlations which could be attributed to variability in method of measurement of the variable retirement interest. The differences between correlations of retirement interest measures with the other variables which exceeded this indication of method of measurement variability are the differences between retirement interest X internal locus of control and the retirement interest X chance locus of control correlations and the differences between retirement interest X powerful other locus of control and retirement interest X chance locus of control correlations.

By comparing differences attributable to method of measurement variability to differences between trait correlations it appears that differences between correlations of internal locus of control and powerful other locus of control with retirement interest were not greater than differences attributable to method of measurement variability. Consequently, the small differences between correlations of internal locus of control and powerful other

locus of control with retirement interest do not suggest that internal locus of control and powerful other locus of control are differentially associated with retirement interest. The differences between correlations of internal locus of control and powerful other locus of control with retirement interest and correlations of chance locus of control with retirement interest were greater than differences in correlations attributable to method of measurement variability, however. Therefore, it appears that chance locus of control may associate differently (more negatively) with retirement interest than internal locus of control or powerful other locus of control.

Partial Correlations

Since time to retirement estimates varied extremely and since there were significant relationships between certain demographic variables, partial correlations between retirement interest measures, locus of control measures, and social desirability, controlling for age, gender, marital status, income, and time to retirement, were calculated for the sample of 40 pre-retirees who provided data on these variables. This set of partial correlations is presented in Table 7.

Although, the partial correlations were in general weaker than the Pearson r's and were not statistically significant, the pattern of intercorrelation was much the

same. The relationships between retirement interest and internal and powerful other locus of control were similar to one another and were more positive than the relationship between retirement interest and chance locus of control. The differences between trait relationships which exceeded the differences attributable to method of measurement variability were, with one exception, the same as existed between the Pearson r's. For the RIRATE measure of retirement interest the partial correlation with powerful other locus of control did not exceed the partial correlation with chance locus of control by the largest difference between partial correlations of the two measures of retirement interest with the other variables.

Conclusions

Conclusions regarding locus of control and retirement interest range in confidence from quite strong to those which are best labelled suggestive.

First, interest in retirement met minimal standards proposed by Campbell and Fiske (1959) for validity as a psychological trait, demonstrating convergent and discriminant validity. The pattern of association between retirement interest and internal locus of control, powerful other locus of control, and chance locus of control supported construct validity as

well, in that the pattern of association was consistent with expectations developed from locus of control theory.

The pattern of association of internal, powerful other, and chance locus of control with retirement interest, a special case of interest in the future, was consistent though not significant and should be regarded as possibly indicative of a locus of control/interest in the future relationship despite the failure to reach statistical significance. The pattern of association was in the expected direction for both measures of retirement interest and held up when subjected to partial correlations.

Finally, internal locus of control and powerful other locus of control appeared to associate similarly with retirement interest. The differences between correlations were neither significant nor did they consistently exceed differences attributable to variability in the measurement of retirement interest. Partial correlations, controlling for time to retirement and demographic variables, reduced the apparent association with retirement interest dramatically; and the differences between internal locus of control X retirement interest and chance locus of control X retirement interest correlations were similar in direction and significance to the differences between powerful other locus of control X retirement interest and chance locus of control X retirement interest correlations. This finding resembles a previous finding that only chance

locus of control was differentially associated with measures of two cognitive variables (involvement and information), with internal and powerful other locus of control associating similarly and not significantly (Levenson, 1974). Given the partial correlations obtained in this study between scores on the locus of control scales and the retirement interest measures, it appears that correlations calculated from scores provided by larger, more representative samples of pre-retirees might reveal significant negative relationships between chance locus of control and retirement interest and non-significant and similar relationships between internal and powerful other locus of control and retirement interest.

Pre-retirement Morale

To review, a measure of morale developed for use with older persons and offering estimates of three morale factors was included in the questionnaire so that pre-retirement morale could be explored. The Pittsburg Geriatric Center Morale Scale, Revised (PGC) offered estimates of Agitation (akin to manifest anxiety), Attitude toward Own Aging (Attitude), and Lonely Dissatisfaction (Lonely) which could be summed to provide a Total morale score. Higher scores on the three subscales and on the total scale indicate higher morale (Lawton, 1975).

As a first step in exploring pre-retirement morale, the four PGC scores were examined with descriptive statistics and then were correlated with the other variables examined. The descriptive statistics for this sample are displayed in Table 8 and may be compared to the descriptive statistics for a different sample of older, already retired persons (Lawton, 1980). Correlations between scores and other variables are displayed in Table 9.

Since many of the examined variables correlated significantly with morale, multiple regression statistical analyses were computed to identify those variables most powerfully related to morale. The minimum R Square improvement technique of multiple regression was selected because it not only yielded best predictive models incorporating successively more variables but also yielded R Squares for each variable individually. The results of these analyses are presented in Table 10 and Table 11.

The results of the multiple regression analyses revealed significant relationships between morale and time to retirement and locus of control. Descriptions of these relationships and of findings relevant to the a priori research topics conclude this Findings section.

Data Presentation

Summary statistics for 80 subjects who had not yet retired and who responded to the morale items are displayed in Table 8. Similar statistics for another sample of older,

TABLE 8

Means and Standard Deviations for PGC Morale Scores in Two Samples

PGC Scale	Pre-retirees N	Pre-retirees $\bar{X}$	Pre-retirees SD	Elderly * N	Elderly * $\bar{X}$	Elderly * SD
Agitation	80	4.74	1.62	929	4.38	1.65
Attitude	80	3.59	1.24	931	2.17	1.56
Lonely	80	5.14	1.02	930	4.81	1.50
Total	80	13.51	3.16	928	11.35	3.76

* Note. Statistics for the large sample of elderly persons come from Lawton (1980).

TABLE 9

r Correlations between PGC Morale Scores and Other Selected Variables

Variable	PGC Scale Agitation	Attitude	Lonely	Total
Time to retirement	.34** (71)	.24** (71)	.17 (71)	.31** (71)
Age	-.10 (74)	-.05 (74)	.04 (74)	-.04 (74)
Income	.10 (75)	.22 (75)	.19 (75)	.20 (75)
Locus of control				
I	-.02 (77)	.09 (77)	.26* (77)	.13 (77)
P	-.37** (77)	-.29* (77)	-.37** (77)	-.43** (77)
C	-.35** (77)	-.28* (77)	-.29* (77)	-.39** (77)
Retirement interest				
INT8	-.18 (77)	-.03 (77)	-.06 (77)	-.12 (77)
INTRATE	-.21 (55)	-.14 (55)	-.05 (55)	-.17 (55)
M-C SDS	.08 (72)	-.10 (72)	-.05 (72)	.02 (72)

Note. Figures in parentheses represent the number of S's contributing scores to the correlation.

*p<.05
**p<.01

TABLE 10

Independent Variables Yielding the Best Univariate Solutions for PGC Morale Scores

PGC Morale Factor/ Independent Variable	R Square	B value	F	Prob>F
Agitation/				
C	.135	-.080	8.10	.006
Time to retire	.131	.014	7.88	.007
P	.098	-.052	5.65	.021
Age	.016	-.037	.87	.356
Attitude/				
Time to retire	.080	.008	4.52	.038
C	.055	-.037	3.04	.087
P	.053	-.027	2.93	.093
Income	.053	.216	2.90	.094
Lonely/				
P	.119	-.034	7.05	.011
I	.066	.043	3.70	.060
Time to retire	.060	.006	3.30	.075
C	.058	-.032	3.26	.077
Total/				
C	.14	-.155	8.45	.005
P	.135	-.114	8.11	.006
Time to retire	.125	.025	7.41	.009
Income	.032	.443	1.70	.198

Note. N=54 pre-retirees.

TABLE 11

Best Multivariate Solutions for PGC Morale Scores

PGC Morale Factor/ Variables entered	R Square	B value	F	Prob>F
Agitation	.255		5.73	.002
Time to retire		.013	7.36	.009
P		-.023	.83	.368
C		-.054	2.48	.121
Attitude	.213		2.12	.068
Time to retire		.007	3.15	.082
Income		.123	.86	.359
I		.023	.66	.421
P		-.016	.67	.417
C		-.021	.62	.435
M-C SDS		-.038	2.00	.164
Lonely	.286		4.90	.002
Age		..046	2.99	.090
Time to retire		.010	7.73	.008
I		.053	6.43	.015
P		-.025	4.08	.049
Total	.320		4.52	.002
Age		.105	1.52	.223
Time to retire		.034	9.21	.004
I		..105	2.49	.121
P		-.053	1.14	.291
C		-.084	1.66	.203

Note. N=54 pre-retirees

already retired persons (Lawton, 1980) are included for comparison. Since many of the pre-retirees were many years away from retirement and the relatively small differences in morale probably represent the influence of demographic and time to retirement effects, comparison of the two samples seems to be of little value. This is all the more likely, given the significant correlations between morale and time to retirement.

Correlations between the PGC morale scores and other variables of interest are displayed in Table 9. N's for correlations varied and correlations are not strictly comparable since not all subjects provided data on all variables. Nevertheless, it is interesting to note that the only demographic variable significantly associated with any morale measure was time to retirement, that powerful other and chance locus of control were associated similarly and significantly with most morale measures, and that retirement interest was associated consistently and negatively with the morale measure though not significantly so.

Minimum R Square improvement multiple regression solutions for Agitation, Attitude, Lonely, and Total morale scores incorporating time to retirement, age, income, locus of control, and social desirability as independent variables for 54 subjects who provided data on these variables were computed. The retirement interest

measures were not included in this analysis since doing so resulted in an unacceptably reduced sample and yielded little improvement in R Square. The results of this analysis are presented in two ways. Table 10 presents those variables which yielded the most significant and powerful solutions for the morale measures when the 7 independent variables were entered separately. The relative power of the association between independent variables and the morale variables may be gauged by comparing R Square values and probability levels, and the direction of association is indicated by the sign of the B value. Table 11 presents the best multiple regression solutions for morale which included only those variables meeting a .5 probability level upon entry into the solution. This criterion is commonly used in the SAS program, makes sense in that variables not meeting a .5 level of probability are worse predictors than a coin toss, and commonly stops additions to the regression equation at the point when increases in R Square become minimal.

A study of Table 10 reveals that locus of control, especially chance and powerful other locus of control, and time to retirement were more powerfully and more significantly associated with morale than were social desirability, age, or income. With some exceptions, one or another of the locus of control scales was more highly associated with the morale scales than was time to

retirement, the most notable exception being the Attitude toward Own Aging factor of morale. That time to retirement associated most powerfully with the Attitude toward Own Aging factor of morale is readily understandable since time to retirement may well be one mark of social age and since it was highly associated with chronological age ($\underline{r} = -.56$, $p < .0001$, $N = 70$) for this group of pre-retirees. For this sample, higher morale was associated most significantly and most powerfully with greater time to retirement and with lower attribution of control over reinforcement to chance and powerful others.

A study of Table 11 reveals that the variables age, time to retirement, and locus of control yielded the best solution for total morale, accounting for 32% of the variance. Greater age, greater time to retirement, and greater attribution of control to oneself and lesser attribution of control to chance and to powerful others were associated with higher morale.

Conclusions

Powerful other and chance locus of control were significantly associated with morale. Specifically, powerful other and chance locus of control were associated similarly, negatively, and consistently with morale. In so far as internal locus of control was associated with morale, the association was positive, not significant, and most

observable in relationship to the Lonely Dissatisfaction factor.

This sample of pre-retirees provided scores on the Agitation, Attitude toward Own Aging, Lonely Dissatisfaction and Total morale scales that were slightly though consistently higher than those reported for a sample of older, already retired persons. The difference in morale between samples was small, was probably a result of demographic influences, and was not interpreted.

Scores on the Agitation, Attitude toward Own Aging, and Total morale scales and the time to retirement estimates were significantly, consistently, and positively associated. Time to retirement was the single most powerfully associated variable to the Attitude toward Own Aging factor of morale. Thus, greater time to retirement was significantly associated with better morale as measured by the Agitation factor scale, the Attitude toward Own Aging factor scale, and the Total morale scale.

The association between retirement interest and all measures of morale was consistently negative. However, it was not significant; and it was not as powerful as associations between the morale measures and locus of control (especially powerful other and chance locus of control). Nor was it as powerful as associations between the morale measures and time to retirement.

The associations between social desirability and measures of morale were inconsistent and not significant.

4. SUMMARY AND IMPLICATIONS

Doing research on the subject of pre-retirement proved to be more difficult than expected. The sample of persons who provided data for this study cannot be considered representative of any identified group of pre-retirees. Nevertheless, this study yielded findings that should be of interest to persons studying the locus of control construct, the morale of older workers, or pre-retirement. The utility of Levenson's (1974) elaboration of the locus of control construct was supported by the findings of this study. The relationship between poorer morale and impending retirement was reproduced, and some consistent correlations between poorer pre-retirement morale and psychological variables were observed. Finally, the findings of this study suggested that interest in retirement may be validly employed as an independent psychological trait.

This section opens with a description of the group of pre-retirees who provided the data for this study and some cautions about generalizing the findings of this study to pre-retirees as a general population. Some problems encountered in researching pre-retirement are also addressed. Discussions on the subjects of locus of control, pre-retirement morale, and interest in retirement comprise the remainder of this Summary and Implications section.

Description of the Sample and Cautions about Generalizing from the Findings of this Study

The group of pre-retirees who provided data for this study was unusual. Women, whites, married persons, professionals, modest to moderate incomes and high educational achievement were predominantly represented in this sample. Further, some subjects expected to retire in the very near future while others expected that they would not retire within the next 20 years. That this group of pre-retirees is not representative of the U. S. population of pre-retirees is certain. How locus of control, morale, and retirement interest data provided by a more representative sample would differ from the data provided by this sample of pre-retirees is a matter for speculation.

Superficially, it seems likely that this group of mostly well educated and professional persons would give locus of control responses scoring higher on the internal scale and lower on the powerful other and chance scales than would a group of less well educated, non-professional persons. That individuals who are more knowledgeable and who have histories or more autonomous work would expect to have more control over reinforcement is a reasonable argument. Nevertheless, it cannot be assumed with certainty that this group earned unusually high internal and unusually low powerful other and chance scores since this group's

proportion of women and blacks was higher than the U. S. population's. That a history of discrimination and/or relative powerlessness would foster attribution of control to powerful others and to chance is also a reasonable argument. And on that point, one would speculate that this group of pre-retirees earned lower internal locus of control and higher powerful other and chance locus of control scores than a more representative group. Since Levenson locus of control scale scores for a sample representative of the U. S. population of pre-retirees are not available, how or whether the locus of control scores for this sample differ from scores for a more representative sample cannot be definitively concluded.

Speculation that the morale scores earned by this sample of pre-retirees are higher than morale scores that would have been earned by a more representative sample of pre-retirees appears to be well founded. A large majority of this sample claimed professional or managerial occupations. It seems reasonable to assume that professionals and managers would suffer fewer work related physical ailments than would persons working at more physically demanding jobs, and it seems reasonable to assume that greater freedom from physical ailment would be associated with better morale. An argument that persons in this sample would not be likely to enjoy better than average health can be made. It is possible that professionals and managers

would develop more stress related maladies and would be in poorer physical condition as a result of working at sedentary occupations. Nevertheless, it seems likely that this sample of pre-retirees would enjoy relatively better health than would a more representative sample since a more representative sample would include persons who had worked in more toxic environments and at more dangerous and physically demanding jobs. Further, it seems reasonable to assume that the financial condition of most persons in this sample was better than average. Less than 10% of the sample reported annual incomes below $10,000, and a majority of these pre-retirees held jobs that provided pension benefits as well as social security benefits upon retirement. Assuming that relative freedom from financial need would be associated with relatively better morale, it seems reasonable to speculate that this sample's morale scores would be higher than morale scores for a more representative sample.

Whether or not this group of pre-retirees' interest in retirement reports would differ from reports made by a more representative sample is very much an open question. Powerful correlates and determinants of interest in retirement are still a matter for speculation. As an aside to the relationships of primary interest here between retirement interest and locus of control and morale, it can be noted that the most powerful correlation between a measure

of retirement interest and any of the other variables examined in this study accounted for only 12% of the variance in reports of retirement interest. That correlation was $r = -.35$, $p<.02$ (for 52 subjects) and was between the rating measure of retirement interest and age. Given correlations of this magnitude and intuitively unexpected direction (less retirement interest associated with greater age), more basic research into retirement interest is called for before one could reasonably speculate about how this group of pre-retirees would differ from a more representative group in terms of retirement interest.

A caution about generalizing the findings of this study to individual pre-retirees or to other groups of pre-retirees is in order. The strongest correlation in this study ($r = .65$, $p<.0001$ for 51 subjects who responded to both retirement interest measures) accounted for only 42% of the variance in the relationship between two measures of retirement interest. Other important, unidentified, and uncontrolled sources of variance in relationships between the measured variables were obviously at work. Until those sources of variance are better identified and understood through further research, the findings of this study should be taken as suggestions concerning some of the several possible contributors to interest in retirement and pre-retirement morale. Retirement has been characterized as "one of the most complicated areas of investigation in

gerontology" (Adams, 1971). Pre-retirement, also, appears to be a complicated area of investigation. This study has yielded no evidence to suggest that differences in retirement interest and in pre-retirement morale can be accounted for or understood by observing one or two face valid variables.

Researching Pre-retirement

Two problems in researching pre-retirement were encountered early on. Accurately identifying persons who were within two years of retirement with information obtained from co-workers and associates was a major problem, and obtaining a response to the item calling for generalized self assessment and disclosure on the subject of retirement interest was the second significant problem. It may be that the two problems are interrelated and carry serious implications concerning the wellbeing of retirees.

Identifying Pre-retirees

Reports by professional and religious organization associates and by co-workers concerning the retirement status of their associates were apt to be inaccurate to a considerable degree. Of the 94 questionnaire respondents who had been identified as likely to retire within two years, less than one-third actually met that criterion. More than 40% of the respondents were already retired or

did not expect to retire within 4 years.

This finding is intriguing. Although sampling error resulting from a lower response rate associated with nearness to retirement could not be rejected as a possible explanation for this finding, serious consideration must be given to the proposition that many persons know very little about the retirement plans and status of their associates.

Incomplete Responding

The questionnaire item calling for generalized self assessment and disclosure on the subject of retirement interest was the single item most often omitted by respondents. Incomplete responding on the subject of impending retirement has been observed by another researcher (Fengler, 1975). Processes akin to denial, confusion, or avoidance of ambiguity seem to be more plausible explanations than fatigue or questionnaire intolerance because other items which appeared on the questionnaire before and after the interest in retirement rating item were answered more consistently by and drew more direct criticism from the respondents.

This observation of incomplete reporting on the subject of impending retirement could be related to the observation that many persons gave inaccurate estimates concerning the retirement status of their associates. If persons

approaching retirement express themselves incompletely on retirement issues, then their associates are likely to be ill informed regarding their retirement status.

The observation that many persons had inaccurate impressions of their associates' retirement status and the possibility that pre-retirees may contribute to those inaccurate impressions by failing to express themselves on retirement issues have serious implications for the wellbeing of persons who retire. In so far as retirement issues determine behavior (values, plans, affect, job commitment and performance, etc.), misinformation on the subject could lessen intimacy and disrupt relationships during the years immediately prior to retirement. If lessened intimacy and disruption of relationships developed in pre-retirement years were to continue into retirement, then the health and wellbeing of some retirees would be threatened. One gerontologist (Atchley, 1972, p195) concludes flatly, "isolation is deadly for the older person." Since this study's findings suggest that social isolation in retirement could develop from poor communication starting before retirement, special attention to communication and social relationships during the pre-retirement years is clearly warranted.

For pre-retirement researchers, the low accuracy of retirement status estimates and the propensity of subjects to skip certain items have a number of implications.

Large scale sample recruitment programs are indicated when large numbers of complete data sets from persons close to retirement are desired. Where access to employer records is possible, more accurate identification of pre-retirees may be possible. Gathering data by interview rather than by self administered questionnaire may yield a higher proportion of complete data sets.

Locus of Control

The pattern of relationship implied by J. B. Rotter's work between internal, powerful other, and chance locus of control and interest in the future was tentatively reproduced. Powerful other and chance locus of control were observed to be significantly and consistently associated with Agitation, Attitude toward Own Aging, Lonely Dissatisfaction, and Total morale measures. The contrast between patterns of relationship of measures of locus of control with retirement interest and morale measures suggest cognitive-affective differences in the influence of locus of control and suggest that Levenson's (1974) tridimensional elaboration of the locus of control construct is a useful differentiation of Rotter's locus of control formulation.

Locus of Control and Retirement Interest

Internal, powerful other, and chance locus of control were consistently though not significantly associated with retirement interest, and the pattern of association was as expected. That is, internal locus of control was more positively associated with retirement interest than was powerful other locus of control which, in turn, was more positively associated with retirement interest than was chance locus of control.

The pattern of association observed here is similar to a previous finding (Levenson, 1974) that internal and powerful other locus of control were similarly and positively though not significantly associated with information and involvement and that chance locus of control was more powerfully and negatively associated with these variables. On a cognitive-affective dimension of behavior, these three behaviors -- information, involvement, and interest in retirement -- appear to locate more toward the cognitive pole.

The present set of findings does not completely reproduce the positive association reported by J. B. Rotter between internal locus of control and interest in the future. Internal locus of control was not observed to associate significantly with retirement interest. Nor does this set of findings refute the the association reported by Rotter; internal locus of control was observed to

associate with retirement interest more positively than did powerful other or chance locus of control. A unidimensional conception of locus of control, such as Rotter's, would conceal the relationship between interest in the future and locus of control that is suggested by the findings of this study. Attribution of control to chance appears to be associated with less interest in retirement while attribution of control to internal or powerful other loci appears to associate with neither more nor less retirement interest. With Rotter's conceptualization, where higher external attribution is equated with lower internal attribution, a positive association between internal locus of control and future interest may be interpreted in at least two ways: internal attributions are associated with greater future interest or external attributions are associated with less future interest. Given the findings of this study, the latter interpretation appears to be more accurate.

Locus of Control and Morale

Powerful other and chance locus of control were significantly and consistently associated with Agitation, Attitude toward Own Aging, Lonely Dissatisfaction, and Total PGC morale measures. The association was between poorer morale and greater attribution of control to powerful others and chance. The one significant association

between internal locus of control and the morale factors was positive; better morale was associated with greater internal attributions of control.

This finding does not support the hypothesis made by Abramson et al. (1978) that internal locus of control would be associated with negative affect of greater intensity. However, this finding cannot be taken as evidence disconfirming the Abramson et al. hypothesis, since specified limitations to the hypothesized relationship between internal locus of control and intensity of negative affect were not met. Locus of control over reinforcement, not control over punishment, was measured here; and it seems very likely that the persons contributing data to this study were not experiencing similar conditions of helplessness. Additionally, Abramson et al. hypothesize a relationship between negative affect and helplessness. In so far as helplessness, powerful other locus of control, and chance locus of control are similar (All three concepts imply that power is not vested with the individual.), the findings of this study do support the work of Abramson et al. (1978).

Levenson's Elaboration of Locus of Control

The worth of Levenson's (1974) elaboration of the locus of control construct is supported by the patterns of association observed here between locus of control and

retirement interest and morale. Powerful other locus of control associated with retirement interest in a manner similar to the way that internal locus of control associated with retirement interest. However, in relationship to the morale factors, the associations involving powerful other locus of control and chance locus of control were similar. Campbell and Fiske (1959) suggest that when the pattern of intercorrelation between two measures and other traits is dissimilar then those two measures are not likely to be measures of the same trait. Given the significant correlations between powerful other and chance locus of control observed in this and other studies, evidence of differences between powerful other and chance locus of control is noteworthy. Here, the differences between correlations of powerful other locus of control and chance locus of control with retirement interest approached statistical significance with one measure of retirement interest and reached statistical significance with the other measure of retirement interest. Further, the differences between correlations of powerful other and chance locus of control with retirement interest were greater than the largest difference between correlations attributable to method of measurement variability (in the measurement of retirement interest) for both measures of retirement interest. Thus it appears that Levenson's powerful other locus of control associates with retirement

interest in a manner different from the way that Levenson's chance locus of control associates with retirement interest.

That Levenson's powerful other and chance locus of control intercorrelate significantly ($r = .64$, $p < .0001$ for 51 subjects) requires explanation. This level of correlation may reflect two areas of commonality between the two scales. First, both scales employ identical contexts and formats within which attributions of control are made and measured. The extent to which method similarities contribute to correlations between the two scales is not clear, but that similar methods could yield similar scores seems likely. Second, the correlation between powerful other and chance locus of control scores could reflect the degree to which powerful other and chance locus of control are conceptually similar (i.e., attribution of control to either powerful other or chance loci imply that control is not vested with the attributor). That powerful other and chance locus of control associated significantly differently with retirement interest in this study in spite of a significant degree of intercorrelation suggests that Levenson's differentiation of external locus of control into powerful other and chance locus of control is an informative and useful elaboration.

Morale

In this study, measures of morale were significantly and most consistently associated with powerful other and chance locus of control and with time to retirement. Age, income, and social desirability were less powerfully, not significantly, and inconsistently associated with morale; and interest in retirement was consistently though not significantly associated with measures of morale.

Morale and Time to Retirement

Higher scores on measures of two morale factors were significantly associated with greater time to retirement within this cross section data sample. The morale factor Agitation, akin to manifest anxiety, was most powerfully associated with impending retirement; though Attitude toward Own Aging was also significantly associated. Thus, nearing retirement was associated with subjective distress and with negative attitudes toward increasing age in this cross sectional sample.

Additional longitudinal morale research over the course of retirement appears to be called for. Other cross section data sample research has indicated that morale may improve following retirement (Fehrenbach, 1972), but questions remain as to the pattern and the timing of changes in morale in relation to retirement. For example, in spite of the relationship observed in this sample

between impending retirement and poorer morale, the average morale scores for this sample were slightly higher than for Lawton's (1980) sample of older, already retired persons.

Morale and Locus of Control

Lower morale on all factors measured by the PGC morale scale was significantly and consistently associated with greater attribution of control to powerful others and to chance. Practitioners presented with morale oriented complaints by mature workers and counselors on issues of retirement would do well to attend to the locus of control characteristics of their clients. Perhaps powerful other and chance attributions could be mitigated or challenged. Encouragement of internal attributions of control alone would seem to be ineffective because internal locus of control was not significantly associated with most factors of morale. The work by Abramson et al. (1978) includes numerous policies for treatment of helplessness related complaints. Inasmuch as the poorer morale associated with powerful other and chance locus of control in this sample may reflect helplessness, the Abramson et al. approach could be valuable to practitioners treating pre-retirees. Approaches to influencing locus of control have received some study and consideration (Phares & Lamiell, 1977), and further study of locus of control as a tri-dimensional construct appears warranted.

Morale and Retirement Interest

Lower morale on all factors measured here was consistently though not significantly associated with higher interest in retirement in this sample of older workers. This relationship, if valid, is not surprising if one assumes that morale and job satisfaction were associated positively and that job satisfaction and retirement interest were associated negatively. That is, one would expect older workers who are unhappy in their jobs to display both lower morale, in association with job dissatisfaction, and greater retirement interest, as one avenue of escape from an unpleasant work situation. Of course, it is possible that the correlations observed between retirement interest and morale could reflect the influence of an unidentified third variable.

Interest in Retirement

Evidence in support of retirement interest as a psychological trait possessing convergent, discriminant, and construct validity was gathered. As a possibly valid trait, interest in retirement could be of use in research on the subject of future orientation, in vocational and occupational research, and in further retirement research. The 8 item Likert format retirement interest measure appears to be of the greatest use because it was less subject to the social desirability response set and because it drew responses

from more subjects. Given the minimal space and time required to include the rating item and the benefits of comparing measures, however, using both measures in combination seems advisable.

It is notable that the two measures of retirement interest employed here intercorrelated relatively weakly. The correlation between scores on the 8 item scale and the summary self rating accounted for only 41% of the variance in retirement interest scores. Consequently, it appears that the two measures of retirement interest differentially measured something else in addition to retirement interest. The findings of this study contain clues about possible differences between the two measures (i.e., the rating measure was skipped by more subjects and higher scores on the rating measure were more powerfully associated with lower social desirability scores than was the case with the 8 item measure) that suggest that the rating measure was somehow less acceptable to this group of pre-retirees. Why that was so and in what other ways the single rating and 8 item scale measured differently cannot be determined at this point.

Conclusions

Due to difficulty identifying persons expecting to retire in the near future and to the tendency of some pre-retirees to not respond to an item calling for

generalized self assessment and disclosure on the subject of retirement interest, researching pre-retirement proved to be more difficult than expected. Therefore, a sample of pre-retirees, demographically representative and sufficiently large to allow a clear test of the research hypotheses, was not generated. Nevertheless, results supporting a number of conclusions and raising questions for further research were found and presented.

The sample recruitment problems and subject response characteristics raised general and intriguing questions about the process of relationships between pre-retirees and their associates. Are those relationships limited by disrupted communication of retirement plans and intentions; and, if so, how does the pattern of disrupted communication develop? Are there post-retirement consequences, such as social isolation, which are desirable or unfortunate in various respects? These questions also bear on the classical activity-disengagement approaches to understanding aging (Cumming & Henry, 1961; Havighurst, Neugarten, & Tobin, 1964; Henry, 1964). For example, if pre-retirees lose relationships as a result of failure or inability to communicate with associates about retirement plans and intentions, then social isolation in retirement cannot be taken as evidence of a normal aging process of disengagement.

While it may be concluded on the basis of this study that the positive internal locus of control/interest in

the future relationship was not disconfirmed, it is more accurate to conclude that a negative relationship between chance locus of control and retirement interest was tentatively suggested. More certainly, it may be concluded that powerful other and chance locus of control were associated negatively with all morale factors measured here. Powerful other locus of control proved to be a most interesting variable. Its association with a more cognitive variable, retirement interest, was similar to the association between internal locus of control and retirement interest while its association with a more affective variable, morale, was similar to the association of chance locus of control with morale. The differences in relationships of cognitive and affective variables with powerful other locus of control observed here support the worth of Levenson's elaboration of the locus of control construct and deserve further investigation.

Time to retirement and retirement interest proved to be variables relevant to pre-retirement behavior. Time to retirement was significantly associated with Agitation and Attitude toward Own Aging factors of morale, and validity for retirement interest as an independent psychological trait was demonstrated.

In conclusion, it is hoped that this study will prompt additional psychologically oriented research in the area of retirement. That relationships between

retirement interest, morale and other psychological variables were observed suggests that the study of retirement would profit from psychological research. That significant locus of control and morale findings were generated in research in the area of retirement suggests that empirical psychology would profit from attention to the area of retirement.

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APPENDICES

APPENDIX A

The University of Tennessee, Knoxville
College of Liberal Arts
Department of Psychology

KNOXVILLE, TN 37916
(615) 974-2531

I am writing to ask for your help with a research project that I am conducting in connection with my doctoral training at the University of Tennessee. I would like for you to spend some 45 minutes to fill out the enclosed questionnaire. My research is concerned with persons who may be approaching retirement, and information you provide could contribute to efforts to better understand this important period of adult life.

I realize that your time and effort are valuable, and I regret that I cannot offer to pay for your participation. Should you agree to participate, however, I will gladly send you a summary of the findings once the study is completed and with your permission I will acknowledge your participation, in the published dissertation.

If you are willing to participate in my project, please fill out the enclosed questionnaire. Please be advised that the information you provide will be kept strictly confidential and that the only foreseeable risk or expense that you would run in participating would be the time and effort it takes to complete and mail the questionnaire. A post paid envelope is enclosed to save you the cost of postage. Even if you agree to participate in my project now, you may change your mind and withdraw at any time.

By University of Tennessee regulations, researchers seeking participation by others in their projects must obtain "informed consent" so that prospective participants will be protected from undisclosed risks. I have included in this letter information about my project that you would need in order to be "informed"; and your filling out and returning the research questionnaire would constitute your "informed consent" to be included as a participant in my project.

Please feel free to contact me about any questions you may have. My home address and phone number: 91 N. Belvedere #6, Memphis TN 38104, 901 725-4299.

I appreciate your attention to my request, and I hope to be hearing from you soon.

Sincerely

John H. Spencer

This questionnaire has several sections, each beginning with a brief set of instructions. Please remember that you may skip items which you do not want to answer, that you may stop at any time, and that all information you provide will be kept confidential. A completely filled out questionnaire would be most appreciated. Thank you for your help.

PRE-RETIREMENT RESEARCH QUESTIONNAIRE

Please fill in or check the following blanks. On some items, a one or two word answer is called for. On some items, a check mark in the appropriate space will suffice. If you are reluctant to give your name and address, feel free to omit the first item.

1. Name_____

   Address_____

2. Would you like to receive a summary of the findings of this research?

   yes_____ no_____

3. Would you like to be listed as a contributor in the report of this research?

   yes_____ no_____

4. Age_____ Gender_____ Race_____

   Marital status: married_____ divorced_____

   widowed_____ never married_____

5. How long will it be before you retire? Please consider retirement to be the time when you expect to be employed less than full time and eligible for pension or retirement benefit payments.

   years_____ months_____

   How confident are you concerning the time of your retirement? Please circle one number:

   Confident 1 2 3 4 5 6 7 8 9 Not confident

6. What is your occupation?

   Professional_____ Craftsman _____

   Management _____ Non-farm labor_____

   Sales _____ Farmer _____

   Clerical _____ Self-employed _____

   Not employed outside the home_____

   Other, please specify: _____

7. Within which range does your current income fall?

____ less than $5,000	____ $20,000 to $24,999
____ $5,000 to $9,999	____ $25,000 to $29,999
____ $10,000 to $14,999	____ $30,000 to $34,999
____ $15,000 to $19,999	____ over $35,000

8. How many years of education have you completed?

____ less than 8th grade	____ completed college
____ completed 8th grade	____ completed graduate or professional study
____ completed 12th grade	
____ some college	____ completed doctorate

Please circle the number which best reflects your attitude toward each statement below.

	Strongly disagree	Disagree somewhat	Slightly disagree	Slightly agree	Agree somewhat	Strongly agree
1. Whether or not I get to be a leader depends mostly on my ability.	-3	-2	-1	+1	+2	+3
2. To a great extent my life is controlled by accidental happenings.	-3	-2	-1	+1	+2	+3
3. I feel like what happens in my life is mostly determined by powerful people.	-3	-2	-1	+1	+2	+3
4. Whether or not I get into a car accident depends mostly on how good a driver I am.	-3	-2	-1	+1	+2	+3
5. When I make plans, I am almost certain to make them work.	-3	-2	-1	+1	+2	+3
6. Often there is no chance of protecting my personal interest from bad luck happenings.	-3	-2	-1	+1	+2	+3
7. When I get what I want, it's usually because I'm lucky.	-3	-2	-1	+1	+2	+3
8. Although I might have good ability, I will not be given leadership responsibility without appealing to those in positions of power.	-3	-2	-1	+1	+2	+3

Please circle the number which best reflects your attitude toward each statement below.	Strongly disagree	Disagree somewhat	Slightly disagree	Slightly agree	Agree somewhat	Strongly agree
9. How many friends I have depends on how nice a person I am.	-3	-2	-1	+1	+2	+3
10. I have often found that what is going to happen will happen.	-3	-2	-1	+1	+2	+3
11. My life is chiefly controlled by powerful others.	-3	-2	-1	+1	+2	+3
12. Whether or not I get into a car accident is mostly a matter of luck.	-3	-2	-1	+1	+2	+3
13. People like myself have very little chance of protecting our personal interests when they conflict with those of strong pressure groups.	-3	-2	-1	+1	+2	+3
14. It's not always wise for me to plan too far ahead because many things turn out to be a matter of good or bad fortune.	-3	-2	-1	+1	+2	+3
15. Getting what I want requires pleasing those people above me.	-3	-2	-1	+1	+2	+3
16. Whether or not I get to be a leader depends on whether I'm lucky enough to be in the right place at the right time.	-3	-2	-1	+1	+2	+3
17. If important people were to decide they didn't like me, I probably wouldn't make many friends.	-3	-2	-1	+1	+2	+3
18. I can pretty much determine what will happen in my life.	-3	-2	-1	+1	+2	+3
19. I am usually able to protect my personal interests.	-3	-2	-1	+1	+2	+3
20. Whether or not I get into a car accident depends mostly on the other driver.	-3	-2	-1	+1	+2	+3
21. When I get what I want, it's usually because I worked hard for it.	-3	-2	-1	+1	+2	+3
22. In order to have my plans work, I make sure they fit in with the desires of people who have power over me.	-3	-2	-1	+1	+2	+3
23. My life is determined by my own actions.	-3	-2	-1	+1	+2	+3
24. It's chiefly a matter of fate whether I have a few friends or many friends.	-3	-2	-1	+1	+2	+3

Please circle the number which best reflects your attitude toward each statement below.	Strongly disagree	Disagree somewhat	Slightly disagree	Slightly agree	Agree somewhat	Strongly agree
1. I would welcome a bull session on the subject of retirement.	-3	-2	-1	+1	+2	+3
2. I try to be informed on the subject of social security and pension benefits.	-3	-2	-1	+1	+2	+3
3. I rarely think about retirement.	-3	-2	-1	+1	+2	+3
4. Articles and pamphlets about retirement interest me.	-3	-2	-1	+1	+2	+3
5. If retirement becomes the topic of conversation, I would rather not become involved in that conversation.	-3	-2	-1	+1	+2	+3
6. I would not watch a TV special about retirement if it came on at a convenient time.	-3	-2	-1	+1	+2	+3
7. I speculate about what my retirement will be like.	-3	-2	-1	+1	+2	+3
8. A free lecture about retirement would not interest me.	-3	-2	-1	+1	+2	+3

9. Please circle a number on the scale below to indicate your overall interest in retirement.

Not interested 1 2 3 4 5 6 7 8 9 Interested

We would like to know how you feel about a number of things. Read each question and put an X in the space which tells how you feel.

1. Do things keep getting worse as you get older? _____yes _____no
2. Do you have as much pep as you had last year? _____yes _____no
3. How much do you feel lonely? _____not much _____a lot
4. Do little things bother you more this year? _____yes _____no
5. Do you see enough of your friends and relatives? _____yes _____no
6. Do you feel that as you get older you are less useful?

_____yes _____no

Please read each question and put an X in the space which tells how you feel.

7. Do you sometimes worry so much that you can't sleep?
____ yes ____ no

8. As you get older, are things ____ better than you thought they would be?
____ worse
____ same

9. Do you sometimes feel that life is not worth living? ____ yes ____ no

10. Are you as happy now as you were when you were younger?
____ yes ____ no

11. Do you have a lot to be sad about? ____ yes ____ no

12. Are you afraid of a lot of things? ____ yes ____ no

13. Do you get mad more than you used to? ____ yes ____ no

14. Is life hard for you much of the time? ____ yes ____ no

15. How satisfied are you with your life today? ____ satisfied
____ not satisfied

16. Do you take things hard? ____ yes ____ no

17. Do you get upset easily? ____ yes ____ no

Listed below are a number of statements concerning personal attitudes and traits. Read each item and decide whether the statement is true or false as it pertains to you personally. Please circle your response

1.	Before voting I thoroughly investigate the qualifications of all the candidates.	True	False
2.	I never hesitate to go out of my way to help someone in trouble.	True	False
3.	It is sometimes hard for me to go on with my work if I am not encouraged.	True	False
4.	I have never intensely disliked anyone.	True	False
5.	On occasion I have had doubts about my ability to succeed in life.	True	False
6.	I sometimes feel resentful when I don't get my way.	True	False
7.	I am always careful about my manner of dress.	True	False
8.	My table manners at home are as good as when I eat out at a restaurant.	True	False

9. If I could get into a movie without paying and be sure I was not seen I would probably do it.	True	False
10. On a few occasions, I have given up doing something because I thought too little of my ability.	True	False
11. I like to gossip at times.	True	False
12. There have been times when I felt like rebelling against people in authority even though I knew they were right.	True	False
13. No matter who I'm talking to, I'm a good listener.	True	False
14. I can remember "playing sick" to get out of something.	True	False
15. There have been occasions when I took advantage of someone.	True	False
16. I'm always willing to admit it when I make a mistake.	True	False
17. I always try to practice what I preach.	True	False
18. I don't find it particularly difficult to get along with loud mouthed, obnoxious people.	True	False
19. I sometimes try to get even rather than forgive and forget.	True	False
20. When I don't know something I don't at all mind admitting it.	True	False
21. I am always courteous, even to people who are disagreeable.	True	False
22. At times I have really insisted on having things my own way.	True	False
23. There have been occasions when I have felt like smashing things.	True	False
24. I would never think of letting someone else be punished for my wrongdoings.	True	False
25. I never resent being asked to return a favor.	True	False
26. I have never been irked when people expressed ideas very different from my own.	True	False
27. I never make a long trip without checking the safety of my car.	True	False
28. There have been times when I was quite jealous of the good fortune of others.	True	False
29. I have almost never felt the urge to tell someone off.	True	False

30. I am sometimes irritated by by people who ask favors of me. True False

31. I have never felt that I was punished without cause. True False

32. I sometimes think when people have a misfortune they got only what they desrved. True False

33. I have never deliberately said something that hurt someone's feelings. True False

Now that you have finished the questionaire, would you please take a few minutes to make sure that you have answered as many items as you can and then use the enclosed stamped envelop to mail the questionaire back to me at 91 N. Belvedere #6, Memphis TN 38104.

I very much appreciate your help with my research. It will be my pleasure to act as you have requested regarding acknowledgement and forwarding a summary of the findings.

APPENDIX B

Without the support and assistance of the persons and associations listed here, this study could not have been conducted. In giving their time, their effort, and information about themselves, they gave of themselves to help others.

Bernice Wise Abron
Ernest B. Abron
James Madison Barr
Tom C. Bell
Rosemary Bennett
Marjorie Binford
Lawrence F. Brack
Mrs. Jimmie Bradley
William A. Brotherton
Magnolia W. Brown
Marsha J. Buchanan
Lawrence P. Busby, III
Ann Carriere
Robert E. Clodfelter
Curnaria L. Cooper
Marilyn L. Crawford
John W. Davis
Elizabeth H. Dean
Helen Boyd Dortch
Leah A. Dutcher
Albert C. Eder
Sharon Emerson
Josie H. Flowers
George B. Gage
Mrs. James Godwin
Beulah Green
Martin Hilby
Clara G. Hill
Clifford B. Hoehne
Wayne L. Hubbard
Annie M. Jones
Esther A. Jones
Helen Sue Jones
Louise C. Jones
Velma Lois Jones
Joanne S. Kelly
James E. Luna
Mae Marsh
Oscar W. May
George Miles
Zernia M. Peacock
Gloria J. Pearson
Gwendolyn D. Poston
Mary C. Pruitt
James T. Reed
Robert L. Robey
Herbert W. Robinson, Jr.
O. E. Roseberry
Richard H. Routon
William E. Russell
Joe F. Scruggs
Ethel Boozer Sewell
M. A. Shelton
Elizabeth B. Simon
Jack D. Strahl
Henry B. Strock, Jr.
Lucy M. Suttles
Mrs. Jessie M. Taylor
Margie B. Vogel
Maude T. Walker
Maurice H. A. Warner
Margaret H. White
Catherine K. Wilkins
Herbert W. Wilson
Jack Yoste

Idlewild Presbyterian Church
Grace St. Luke's Episcopal Church
Memphis Education Association
Union Avenue Church of Christ
Union Avenue United Methodist Church
The Unitarian Church on the River

VITA

John Henry Spencer was born in Poplar Bluff, Missouri in January, 1951 to Elizabeth Cornell Supplee Spencer and Morris Henry Spencer. Moved to Memphis, Tennessee in his first year and educated in the public schools as a member of the city's first racially integrated class, he was graduated from Central High School in June, 1969. He took his undergraduate training at Southwestern at Memphis, receiving the B. A. degree with Distinction in Psychology in June, 1973.

Mr. Spencer started doctoral training in clinical psychology at the University of Tennessee, Knoxville in September, 1973; and in 1974 he was awarded a traineeship at the St. Cloud V. A. Hospital, where he was first exposed to applied gerontology. Having completed practicum training and course work in clinical psychology and gerontology at UTK, he was admitted to the University of Tennessee Center for the Health Sciences Clinical Psychology Internship Program, completing his internship training in August, 1978. While working toward completion of his Ph. D. in August, 1981, Mr. Spencer provided psychological services in numerous capacities in Memphis.

Mr. Spencer has traveled widely in North America, and he expects to pursue a career in public mental health in the Southeast. He is married to the former Mary Elizabeth Gaston of New Orleans, Richmond, and Fayetteville, North Carolina.