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AUTONOMY, HEALTH AND LIFE SATISFACTION  
AMONG OLDER PERSONS IN A  
LIFE CARE COMMUNITY

by

DAVID M. EISENBERG

(May, 1980)

Submitted to the Faculty of the Graduate School of Social  
Work and Social Research of Bryn Mawr College in partial  
fulfillment of the requirements for the  
Degree of Doctor of Philosophy

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CHAPTER I  
INTRODUCTION

Intervention and Client Self-Determination

Seven years ago, while working as a research assistant at the Philadelphia Geriatric Center, I became interested in the complex web of issues surrounding the provisions of protective services to older adults.<sup>1</sup> The Shapp administration in Pennsylvania was embarking on a major policy initiative and was rapidly organizing a massive social services system for aging Pennsylvanians under the auspices of the Department of Public Welfare. New regulations were to be promulgated which would govern the provision of these services. The Philadelphia Geriatric Center, long active in research and service for the elderly, was asked to review current gerontological literature and use this knowledge to help in the writing of these regulations. I was assigned the task of studying the literature on protective services.

Protective service clients by definition are older persons living in the larger community who, because of

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<sup>1</sup>"Protective services" are typically a combination of casework and other social services which, when provided to mentally impaired older adults, include intensive casework, assessment, homemaker-home health care, fiscal management, legal assistance and the capacity to respond to emergencies.



mental impairment and poor physical health, are unable to adequately care for themselves. They are, in the view of health and social service agencies, at risk of further deterioration and are prime targets for abuse and exploitation. The literature I reviewed was organized along two lines. A large segment of the practice literature decried the social workers' untenable position in serving these needy, older people. Social workers lacked the legal power to intervene into the lives of this typically resistant group against their wills. Yet, they argued, the client's resistance was a function of their impairment and only served to further show how truly needful they really were. What was needed were new laws and regulations empowering workers to identify, assess and serve these clients, without client permission, if necessary.

On the other hand, the meager research literature showed a very different perspective. The Benjamin Rose Institute study on protective services, led by Margaret Blenkner, found that some clients receiving protective services became more ill, died sooner and died in greater proportions than did clients in a similar control group which did not receive protective services.<sup>2</sup> The Horowitz and Estes study likewise affirmed that this highly

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<sup>2</sup>Margaret Blenkner; Martin Bloom; Edna Wasser; and M. Nielson, "Protective Services for Older People: Findings from the Benjamin Rose Institute Study," Social Casework 52 (October 1971): 483-522.

impaired client group objected to intervention which they were not able to control - no matter how much it was needed in the view of the service provider.<sup>3</sup> These studies, as well as studies on the relocation of older persons, were indicating a possible relationship between uninvited, intrusive or coercive intervention and increased morbidity and mortality.<sup>4</sup> A seeming conflict loomed between the sometime desperate need for treatment or services by a confused, highly impaired older person and his simultaneous need to retain a sense of control over his own life.

This conflict between two needs, which remains very current today, has many sides to it. First, the professional social workers' stated values clearly place emphasis on helping clients to maintain and preserve their ability to be self-determining. By self-determining I mean making decisions and exercising choices free from external compulsion or interference. The profession generally rejects authoritarian and manipulative tactics and favors participatory methods of problem solving. Yet protective service clients often evidence deteriorated judgment and decision-making capacity, leading the worker to believe that self-determina-

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<sup>3</sup>Gideon Horwitz and Carroll Estes, Protective Services for the Aged (Washington: Administration on Aging, May 1971).

<sup>4</sup>For a review of studies on relocation, see M. Powell Lawton and Lucille Nahemow, "Ecology and the Aging Process," In The Psychology of Adult Development and Aging, pp. 619-674. Edited by Carl Eisdorfer and M. Powell Lawton (Washington, D.C.: American Psychological Association, 1973).

tion or participation in case-planning is essentially impossible. A second aspect involves neighbors, friends and family who literally beg workers to intervene, saying that "Dad would never have tolerated being this way." They argue that "He would want us to put him in a nursing home if he were in his right mind." When significant others are absent, local elected officials place pressure on the social workers to "do something about old-man Smith" because his living conditions are not tolerable to the community. Yet workers know from their own experience that resistant clients are very hard to serve in their own homes; hospital clinics are wary of treating a non-adjudicated incompetent and other service providers shy away from clients with highly deteriorated behavior and living conditions. Sometimes either no care or nursing home care becomes the only alternative, giving substance to the clients' worst fears. The third and last issue is that of risk. The risk of damaging the client seems present whether the client is served or not. Yet how does the social worker reconcile respecting the resistant protective service clients' right to make his own decisions when further deterioration or death may be a consequence? The pressure to intervene to help the client becomes tremendous, even if it means compromising client self-determination.

Two questions were raised by the literature on protective services. First, is the need to feel in control

over one's own life in some way basic to one's well-being<sup>5</sup> or one's ability to be happy and healthy? It appeared from Blenkner's study that the provision of needed services to protective service clients was in vain if their already shaky sense of mastery over their own lives was further eroded. Second, did the provision of service necessarily lead to a lessening of the client's sense of control?

### Institutional Care and Residents' Rights

During the period I was struggling with these issues, the cry for deinstitutionalizing care for older persons reached peak proportions. The development of "in-home services" for the aged was part of the larger effort to provide alternatives to nursing home care. Just as mental hospitals and correctional institutions were viewed as barriers to treatment and rehabilitation, nursing home care was increasingly seen as over-used and over-regimenting, even for those who actually needed it. Movements for patients' rights and client advocacy were active. The Federal Register published regulations requiring intermediate and skilled nursing home facilities to post a patient "bill of rights" which was specified in detail by long term care planners at the Department of Health, Education and Welfare. These lists of rights were used in an attempt to define minimum levels of service and to emphasize that recipients of services should retain control over important areas of their lives even if they are residents of institutions.

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<sup>5</sup>Terms mentioned in the text which have a technical meaning or usage will be underlined when first mentioned.

In 1975, I participated as a trainer in the Annual Meeting of the Pennsylvania Association of Non-Profit (Nursing) Homes for the Aged (PANPHA). I led a session on "residents' rights". Without exception, attending administrators were resistant. They saw the push to increase residents' participation and control as directly in conflict with the provision of service. I witnessed a repetition of the same kind of objections found in the protective service practice literature. Many administrators argued that their residents had carried life's burdens long enough and that residents needed and deserved a secure environment which would allow them to relinquish responsibility for decision-making and self-care. Out of love and respect, they argued, we should care for our elderly charges to the fullest extent we are able. Some maintained that residents who resisted relinquishing control to the institution were in actuality testing the staff to see if they really were committed to caring for them, i.e., overcoming resident resistance proved their commitment. This raised a third question. Are there some conditions under which older people do better if they are able to relinquish control to an outside agent whom they view as caring and paternal? Might it be that as older people perceive themselves as more ill and more needful of outside support, they also want to feel that they can relinquish the control over their own lives to someone stronger?

Thus, my experience with the protective service literature and workers and with the nursing home administrators raised three issues for me. Is the professional social workers' assertion of the primacy of client self-determination merely a lofty value which occasionally and inconveniently gets in the way of rendering needed service? Or does self-determination play some role in the enhancement of well-being? The choice in the protective service practice literature was between respecting a professional value and the resistant clients' preferences at a cost of risking further deterioration by not intervening or intervening very gradually. Alternatively, it may be that self-determination actually has survival value in that it contributes to well-being and therefore ought to be nurtured. The professional tenet is not just a lofty value but actually expresses an important characteristic of human behavior; being in control of one's own life is basic to well-being.

The second issue involved service intervention. If maintaining control is critical for clients, then how can services and service delivery be designed so that they enhance client control rather than lessen it? There seems to be a danger, especially for the highly impaired elderly, that service intervention may heighten feelings of loss of control and self-determination by over-ruling or replacing deteriorated or inade-

quate attempts at self-maintenance.

The third issue, the one raised by the nursing home administrators, addresses the possibility that under some conditions, older persons may find that relinquishing control is good for them. Being self-determining is fine when one has the energy, but illness and disability calls for relinquishing control. Is this ever true? If so, under what circumstances?

Proponents of institutional care argued with the reformist proponents of in-home services during much of the 1970s. There was a small, third group which suggested that these two polar approaches to caring for older persons missed the mark. The third group maintained that what is needed is a setting which combines the characteristics of independent living with the supports available at a nursing facility. This combination would provide a setting which would be rich with services which could be prescribed in doses which would meet residents' needs but would not overwhelm them. In this regard, the concept of the "life care community" became popular.<sup>6</sup>

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<sup>6</sup>Nora Adelman, Directory of Life Care Communities, (Kennett Square, PA: Kendal/Crosslands, 1978). During the 1970s, nine life care communities opened in the Delaware Valley and six more were planned.

A life care community typically consists of independent apartment accommodations adjacent to a health center which is equipped to provide successively higher levels of care. Older people pay a one-time entry fee, based on the size of the apartment they are moving into, and a monthly maintenance fee in exchange for the promise of a lifetime of health and social services in the event of need. Residents of such a community are able to lead lives as independently and as actively as they wish until they become ill or disabled. Services are then provided to them at greater intensity while they continue to live in their apartments. At the point their need becomes great enough, they then move into the health center until they either recuperate or die. The health center may, depending on its design, offer several levels of care, from intermediate nursing care to an acute care infirmary.

Proponents of life care communities argue that this multi-level availability of care allows service provision to be more precisely matched to service need and thus contributes to maintaining residents' sense of control and mastery because residents are not placed prematurely in a fully institutional setting. The assumption here is that it is better for the residents' well-being if they are helped to remain in control of their own lives as



long as possible and to the fullest extent possible.

Life care communities are designed to be prosthetic settings. The possible dangers of too little service availability in the community or too much service in the institution are avoided by design. The life care community is prosthetic in that the level of service needed by a resident to enhance functioning and the sense of control can be prescribed and provided. The fact that multi-level care is available and that such communities stress resident independence, despite the onset of age-related illness and disability, suggests that they would provide fertile ground for examining the questions raised earlier concerning control and self-determination.

Kendal at Longwood is an example of a life care community. Originally conceived by members of the Philadelphia Yearly Meeting of the Society of Friends (Quakers), Kendal is a not-for-profit, non-denominational life care community of over 300 older persons in Chester County, Pennsylvania. It embraces as a prime tenet the notion of maintaining and augmenting resident control. Kendal has been in operation for six years. Administrators, staff and residents believe that the community's success stems to a great degree from the insistence that residents, even disabled and mentally impaired ones, are responsible for their own lives and should control their own lives to the extent they are able.

This emphasis on residents maintaining control is manifest in several ways. Residents sit as full voting members on the Kendal Board of Directors. The recreational, spiritual and social life of the community is governed by committees of the Residents Association. All residents have full access to all parts of the community; there are no locked wards in the health center. Seating in the dining rooms is not assigned. Interior and exterior decoration of community facilities is managed by residents. All residents bring their own furniture and belongings and furnish their apartment or health center room as they wish. Residents design and tend their own gardens and can even make several kinds of structural changes to their apartments. In the health center, mentally impaired residents move about freely. No physical restraints are ever used. Incontinent residents are not catheterized but are given bathroom training. Users of wheelchairs, walkers, canes and carts are not restricted in access in any way. There is a high level of financial disclosure by the administration. The administration generally strives to be open and responsive to the needs and concerns of residents.

In 1977, I was invited to Kendal by the Executive Director to develop a study for the community. He wanted to test the assumption that residents who believed they were in control of their lives were measurably "better off" than other residents who felt they had less control. The issues raised by protective service workers and

nursing home administrators came to the fore. Do older people need to feel that they are in control of their own lives? Does this need for control, if it exists at all, lessen as their health deteriorates and as they move to a more supportive setting? The invitation to come to Kendal provided an opportunity to learn more about these questions.

When I arrived at Kendal I learned that a considerable amount of thought had been given to these issues. I interviewed several dozen staff members and residents in an attempt to discover what they thought was "special" about Kendal and what contributed to the way they identified Kendal in their own minds. A significant proportion of the responses (about 60 percent) mentioned the issue of self-determination. After pointing this out, and after additional discussion, staff members and residents involved in the conceptualization of this study adopted the term autonomy to be the operating concept for a study. As commonly used, autonomy refers to being self-governing or self-directing and was seen as embodying the ideas of self-determination and control over one's own life. The study would focus on the importance of autonomy to the residents of Kendal.

The logical next step was to understand the notion of autonomy more precisely and learn how other investigators had operationalized and studied it.

## CHAPTER II

### REVIEW OF THE LITERATURE

A dilemma exists for professional social workers who wish to serve needy but resistant elderly protective service clients; it appears that client autonomy must be compromised in order to provide needed services. Some nursing home administrators believe that nursing home residents fare better if they relinquish autonomy and place themselves under the care of a concerned staff who will carry the burdens of decision-making for them. The residents and staff of the lifecare community called Kendal believe that autonomy is basic to well-being and that all older persons should be encouraged and assisted to remain as autonomous as possible. The experiences of these groups raise three questions: first, is autonomy, in some way, basic to well-being; second, does the provision of services necessarily lead to a lessening of autonomy for the recipient; and third, do some individuals fare better if they relinquish their autonomy? In order to understand more about these issues and be more precise about the meaning of autonomy, a review of the literature on autonomy and older persons is in order. Of special interest are the ways in which autonomy is conceptualized by various investigators. Also of concern are the

various correlates of high autonomy and low autonomy, and the effects induced by manipulating autonomy.

This review will identify and describe several research approaches to understanding the role autonomy plays with respect to the well-being of older persons. It will discuss key concepts in the literature, review findings and set the framework for the study which follows. Specifically, the areas of inquiry to be reviewed include (1) locus of control theory; (2) environment and its impact on autonomy; (3) experimental effects and the manipulation of autonomy; (4) relocation effect; and (5) learned helplessness. A review of the literature has identified these five areas as pertinent to the understanding of autonomy.

#### Locus of Control Theory

An operationalization of the notion of autonomy which lends some clarity is the locus of control construct principally developed by psychologist Julian Rotter.<sup>1</sup> Based on social learning theory, Rotter derived the construct from direct clinical experience. He noted that some of his psychotherapy patients gained from new

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<sup>1</sup>Julian B. Rotter, "Generalized Expectancies for Internal versus External Control of Reinforcement," Psychological Monographs 80 (1966): 1-28; and "Some Problems and Misconceptions Related to the Constraint of Internal versus External Control of Reinforcement," Journal of Consulting and Clinical Psychology 43 (1975): 56-67. See also Herbert M. Lefcourt, Locus of Control (Hillside, New Jersey: Lawrence Erlbaum Associates, 1976).

experiences while others did not. Upon inquiry he learned that those patients who seemed not to gain from their experiences tended to attribute them to chance or other external forces.<sup>2</sup> While social learning theory treats the genesis and extinction of behaviors as a function of the presence or absence of reinforcements, Rotter's locus of control theory adds expectancy to the traditional formula. Reinforcements act to strengthen an expectancy that a particular behavior or event will be followed by that reinforcement in the future.<sup>3</sup> A history of individual reinforcements yields an aggregate or generalized expectancy. A behavior is predicted partly by the value placed on the outcome hoped for, and partly by the generalized expectancy or belief that the behavior will actually have an effect, or "payoff".

Rotter distinguishes two broad, polar, generalized expectancies. The expectancy of internal locus of control is a belief that reward is contingent upon the actor's behavior or "relatively permanent characteristics of the actor." The expectancy of external locus of control is a belief that reward may follow one's actions but it is not contingent upon them. Rather, reward is

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<sup>2</sup>Rotter, 1966, p. 2.

<sup>3</sup>Ibid.

contingent on luck, chance, fate, or powerful others.<sup>4</sup>

To better understand this conceptualization, a concrete example drawn from actual experience with residents at Kendal should help. Consider two older men known by the pseudonyms of Mr. Smith and Mr. Jones. Both Smith and Jones are cheerful, well-spoken men who enjoy good relationships with their peers. Both have had a lifetime of experiences associating with different people and each has his own ideas about why he is successful or unsuccessful at making friends. When faced with a specific instance of relating to a new friend, each draws on his experience in explaining how the new friendship came about. Jones' experiences and his interpretation of them lead him to adopt an external view; he uses phrases like "God has blessed me with friends," or "People have been very generous with me," or, when pressed, expresses genuine uncertainty about why he would be attractive to others. Smith, on the other hand, states "I work very hard to understand and relate well to people," and "People tend to see me as sympathetic and understanding." Smith's causal explanation for his success is an internal one.

In like manner, when Jones experiences a failure in interpersonal relationships he may be mystified or

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<sup>4</sup>Ibid., p. 1.

say that his former friend became disagreeable for "really no reason at all" and that "there is nothing I can do about it." Smith tends to believe that failures in friendship occur for the same kinds of reasons successes do, namely, his behavior or personality. If his former friend is mistaken in a conflict with him, Smith tends to believe that he can do something about it, whether or not he can actually achieve the final outcome he desires.

These two men have consistent views, i.e., generalized expectancies, of why things happen the way they do. As one would expect, their expectancies carry over to other areas of their lives. When the administration increased the monthly charge, Jones assumed that inflation must have been the cause. Smith, on the other hand, pushed for the establishment of an energy conservation committee, thinking that he and his neighbors could reverse or slow the charge increases by altering their consumption practices.

Lefcourt, commenting on Rotter's theory, points out that it is not the simple registering of success or failure that is important, but rather the interpretation of the cause of the successes or failures. This interpretation is derived from a lifetime of "specific expectancy behavior-outcome sequences".<sup>5</sup> The antecedents

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<sup>5</sup>Lefcourt, 1976, p. 28.



which mold the expectancy have not, as yet, been clearly defined. Rotter suggests that parenting style, race and socioeconomic status may be important, e.g., inconsistent parents may breed externals.<sup>6</sup> Lefcourt cites "affection, nurturance, dominance, coolness and criticality" as components of parental behavior which may mold the expectancy.<sup>7</sup> An infant or child who experiences inconsistent parenting may come to believe that events occur independently of his efforts - he can have little effect on outcomes. Too little research has been done to adequately sort out the source of the generalized expectancy, whether it is personality characteristics, interpersonal relationships, characteristics of the environment, or the interplay of all three.

Both Rotter and Lefcourt mention the importance of intervening variables to the development of the generalized expectancy, especially the "psychological situation". Social learning theory includes the psychological situation as one of the four classes of variables critical to the theory; the other three - behavior, the value of the reinforcement, the expectancy - were mentioned above. Lefcourt suggests that the

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<sup>6</sup>Rotter, 1966, p. 2.

<sup>7</sup>Lefcourt, 1976, p. 98.

psychological situation may have an impact on an individual's expectancy. An individual placed in a manipulative or coercive situation may develop an external expectancy.

Lower socioeconomic status, membership in denigrated minority groups and non-voluntary quasi-incarceration share communality in affording minimal contingency between quality of effort and reward, and in generating more external control expectation.<sup>8</sup>

Rotter's earliest work on locus of control includes a report on his development of a scale with which to measure locus of control. In 1973, Robinson and Shaver found that the Rotter scale was used in over 50 percent of the locus of control research done to that date and that there was general agreement that the Rotter scale was valid with respect to identifying how individuals perceive control over their own destiny.<sup>9</sup> Rotter was interested in learning about the correlates of the two generalized expectancies; what behavioral and personality characteristics were associated with an internal versus an external locus of control orientation. Using his scale, he concluded:

...the individual who has a strong belief that he can control his own

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<sup>8</sup>Ibid., p. 190.

<sup>9</sup>J. P. Robinson and P. R. Shaver, Measures of Social Psychological Attitudes (Ann Arbor: Survey Research Center, 1978), pp. 228-229.

destiny is likely to (a) be more alert to those aspects of the environment which provide useful information for his future behavior; (b) take steps to improve his environmental condition; (c) place greater value on skill or achievement reinforcements and be generally more concerned with his ability, particularly his failures; and (d) be resistive to subtle attempts to influence him.<sup>10</sup>

In this case, "the individual who has a strong belief that he can control his own destiny" is one who is more internal on the locus of control scale. Consistent with these early findings, investigators have found generally that human subjects work harder on tasks when they think that outcomes are based more on skill than on chance.

The key concepts in locus of control theory, then, are internality and externality. Internals are more apt to perceive themselves as being in control of their own lives than externals are, because internals have a general expectation that outcomes are based on their own efforts. Rotter's early studies found that internality was associated positively with higher scores on several measures of well-being (variously defined).

Since Rotter's monograph, investigators have developed other locus of control scales and some have

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<sup>10</sup>Rotter, 1966, p. 25.

looked at correlates of locus of control expectancies among older persons. In fact, the preponderance of studies of older persons and autonomy have operationalized autonomy by using a locus of control measure. One of the problems encountered in assessing the results of these correlational studies is that the definitions of the correlates vary from one another. Concepts like health, life satisfaction, adjustment and morale are difficult to define and therefore are often measured in different ways. Nevertheless, a review of these studies is informative.

Three studies of elderly persons living in the larger community (rather than in an institutional setting) have shown an association between internality and several measures of well-being. Kuypers noted a high correlation between internality and ego functioning.<sup>11</sup> Kuypers defined ego functioning as a function of coping and adaptation. He found that among 64 older persons with a mean age of 64, externals evidenced more defensiveness and less coping ability. Palmore and Luikart found internal locus of control to be the second best predictor of life satisfaction among 234 older persons aged 60 -

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<sup>11</sup>J. A. Kuypers, "Internal-External Locus of Control, Ego Functioning and Personality Characteristics in Old Age," Gerontologist 12 (1972): 168-173.

71.<sup>12</sup> Self rated health was the best predictor of life satisfaction. Life satisfaction was defined in terms of a point along a continuum representing the "best and worst possible life " for the respondent. Wolk and Kurtz observed that high internality correlated with high adjustment.<sup>13</sup> Wolk and Kurtz defined adjustment using a measure specifically developed for their study which reflected the subject's ability to complete developmental tasks associated with aging, like "adjusting to decreasing physical strength and health." They surveyed 92 older persons, aged 60 to 85, with a mean age of 68. They found that external females displayed the lowest level of adjustment.

Among the institutionalized aged, Fawcett, Stonner, and Zepelin found that externality correlated negatively with life satisfaction.<sup>14</sup> They defined life satisfaction in terms of how happy and satisfied the respondent was with both his past and present life. Their sample consisted of 56 women, aged 67 to 95, with a mean age

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<sup>12</sup>Erdman Palmore and Clark Luikart, "Health and Social Factors Related to Life Satisfaction," Journal of Health and Social Behavior 13 (March 1972): 68-80.

<sup>13</sup>Stephen Wolk and J. Kurtz, "Positive Adjustment and Involvement During Aging and Expectancy for Internal Control," Journal of Consulting and Clinical Psychology 43 (1975): 173-178.

<sup>14</sup>Gayle Fawcett; David Stonner; and Harold Zepelin, "Locus of Control, Perceived Constraint, and Morale Among Institutionalized Aged," Paper presented at the 29th Annual Meeting of the Gerontological Society, New York City, 13-17 October, 1976.

of 80. They found that the association between externality and low life satisfaction was not dependent on other variables. Reid and Ziegler,<sup>15</sup> Wolk,<sup>16</sup> and Wolk and Telleen<sup>17</sup> found a positive relationship between internality and adjustment using three different definitions of adjustment. Reid, Haas and Hawkings concluded that internality correlated with positive self concept among 60 older persons aged 65 to 103, with a mean age of 83.<sup>18</sup> They did not report how they defined self concept except to say they altered an existing self concept scale.

Counterevidence appears in the form of one study by Felton and Kahana.<sup>19</sup> In a study of 124 residents, most of them female, of three different homes for the aged, they found that externality correlated with adjustment.

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<sup>15</sup>David Reid and Michael Ziegler, "A Survey of the Reinforcements and Activities Elderly Citizens Feel Are Important to Their General Happiness," Essence 2 (1977): 5-24.

<sup>16</sup>Stephen Wolk, "Situational Constraint as a Moderator of Locus of Control - Adjustment Relationship," Journal of Consulting and Clinical Psychology 44 (1976): 420-427.

<sup>17</sup>Stephen Wolk and Sharon Telleen, "Psychological Correlates of Life Satisfaction as a Function of Residential Constraint," Journal of Gerontology 31 (1976): 89-98.

<sup>18</sup>David Reid; Gwen Haas; and Douglas Hawkings, "Locus of Desired Control and Positive Self-Concept of the Elderly," Journal of Gerontology 32 (1977): 441-450.

<sup>19</sup>Barbara Felton and Eva Kahana, "Adjustment and Situationally-Bound Locus of Control Among Institutionalized Aged," Journal of Gerontology 29 (1974): 295-301.

They defined resident adjustment using several measures including staff-ratings of resident adjustment and resident life satisfaction, as well as resident self-reports of life satisfaction and morale. They theorized that:

Where opportunities for actual control behavior are absent, perception of oneself as in control may indicate an unhealthy, non-realistic adaptation to institutional life.<sup>20</sup>

This study, as interpreted by Felton and Kahana, provides evidence for Lefcourt's earlier assertion that the psychological situation can have an impact on an individual's generalized expectancy. In this case, Felton and Kahana are characterizing the settings they studied as places which afford little opportunity for residents to exercise control. They reason that an appropriate or adaptive response to this condition would be to become more externally focused. This study raises two important issues; (1) can the environment have an impact on an individual's perception of control and, (2) does relinquishing control and adjusting to an environment which limits control lead to an improvement in well-being? In this case, Felton and Kahana argue that "constraining" environments, or ones which afford little opportunity to exercise control,

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<sup>20</sup>Ibid., p. 300.

can cause residents to adopt a generalized belief that they are not in control. They suggest that residents who adopt this belief will fare better than those who do not.

Environment and Its Impact on Autonomy

Moos writes that environments, like people, have unique personalities.<sup>21</sup>

Although conclusions about the specific impact of different types of environments vary, research has shown that the social ecological settings in which elderly people function can influence moods, attitudes, behavior, health and one's overall sense of well-being.<sup>22</sup>

Thus, particular environments have specific kinds of impact on individuals. The impact depends on the characteristics of the individual in interplay with the characteristics of the environment. This is an especially critical concept in gerontology because environments are intentionally created and manipulated to be prosthetic or enabling, in order to compensate for the decrements in function experienced by aged residents. The idea is for supportive environments to be enabling just as a

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<sup>21</sup>Rudolf Moos; Mary Gouvain; Sonne Lemke; Wendy Max; and Barbara Mehren, "Assessing the Social Environments of Sheltered Care Settings," The Gerontologist 19 (1979): 74-82.

<sup>22</sup>Ibid., p. 74.



prosthetic limb is enabling. Yet a common experience is that so-called supportive environments appear more constraining than enabling--the artificial limb has a ball and chain attached!

A frequently mentioned way to conceptualize this paradox is the "needs-press model" developed by Murray.<sup>23</sup> This model posits personal needs and environmental press. Press is constituted by environmental characteristics which elicit adaptive behavior. Residents have to contend with and react to the environment depending on its characteristics. Adaptive behavior is behavior which permits one to remain in the environment without experiencing stress induced by the environment. Negative press might include physical barriers, coercion, neglect, isolation or threat. Positive press might include attention, tolerance, supports or gifts.<sup>24</sup> Persons have needs; press frustrates or satisfies those needs.<sup>25</sup> Needs depend on the characteristics of the person. They exist apart from the environment. Kahana details the implications of this model:

(1) individuals with certain needs are most likely to seek and to be found in environments which are congruent with those needs;

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<sup>23</sup>H. A. Murray, Explorations in Personality (New York: Oxford University Press, 1938).

<sup>24</sup>Ibid., pp. 740-41.

<sup>25</sup>Moos et al., 1979, p. 76.

- (2) dissonance between press and need leads to modification of the press or, in the free choice situation, to individuals leaving the field; and,  
 (3) where choice is not available, individuals functioning in a dissonant milieu experience stress.<sup>26</sup>

The task, then, is to clearly type environments by their press dimensions, type individuals by the same dimensions in terms of personal needs, and correctly match the two. When need and press are congruent, individuals are adapted. Where the balance is poor, personal competencies are likely to decrease below previous levels and maladaptive behavior and negative affect will result.<sup>27</sup> In Kahana's view, the need for autonomy is just one need-press dimension. Some individuals have a greater need to feel autonomous than do others; some environments support the perception of autonomy more than others. Rather than a straightforward linear correspondence between an increasing perception of autonomy and a particular measure of well-being, as Rotter and Lefcourt would suggest, it is the "fit" between the environment and the person that is important. In this view, an externally oriented individual would

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<sup>26</sup>Eva Kahana, "A Congruence Model of Person-Environment Interaction" (unpublished) (Detroit: Wayne State University, 1979) (mimeographed).

<sup>27</sup>M. Powell Lawton, "An Ecological Theory of Aging Applied to Elderly Housing," Journal of Architectural Education 31 (September 1977): 8-10.

fare better in an environment which enhanced his perception of limited autonomy. Thus, this need-press or congruence theory would suggest that:

...some elderly persons have great needs for autonomy or independence, and a controlling institutional environment with many rules and regulations would be inconsistent with their self-image, previous life-styles and present needs. Others however have a great need for structured situations, clear-cut rules as to what is expected of them--and may have entered the institution expecting that the burden of making the decisions will be taken from them.<sup>28</sup>

The study by Fawcett, Stonner, and Zepelin, described above, was initiated as a replication of the Felton and Kahana study that found externality associated with adjustment to life in a nursing home.<sup>29</sup> Its value as a replication study is questionable because it used very different measures than those used in the Felton and Kahana study. It does shed light on this issue of environment and autonomy. Along with measuring locus of control orientation and life satisfaction, Fawcett, Stonner, and Zepelin developed a measure called perceived institutional constraint (PIC). The PIC measure drew a contrast between conditions in the respondent's former home and conditions in the institutional setting in

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<sup>28</sup>Kahana, 1979, p. 7.

<sup>29</sup>Fawcett, Stonner, and Zepelin, 1976, p.2.

which she resided at the time of the interview. The items focused on "freedoms that were lost or limited."<sup>30</sup> These investigators found that the PIC measure was the best predictor of life satisfaction - better than locus of control or health - and that the higher the perception of constraint, the lower the life satisfaction. Contrary to the findings of Felton and Kahana, these investigators suggest that where an institutional environment inhibits autonomy, residents fare worse.

Thus the debate is joined by those who would argue that enhanced autonomy always has a positive impact on persons versus those who suggest that it depends on the characteristics and needs of the person.

#### Experimental Effects and the Manipulation of Autonomy

Several experiments have been reported which test the effects of increasing the control nursing home residents exercise over aspects of their own lives. Schulz tested the effects of increasing the predictability and control of events in elderly nursing home residents' lives.<sup>31</sup> Using four comparison groups and a positive experimental intervention (visitation by a friendly student), he found that increasing the ability to predict and control positive events led to greater activity and

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<sup>30</sup>Ibid., p. 3.

<sup>31</sup>Richard Schulz, "Effects of Control and Predictability on the Physical and Psychological Well-Being of the Institutionalized Aged," Journal of Personality and Social Psychology 33 (1976): 563-73.

better physical and psychological status among the 42 older persons in the experiment. Those who had control over the experimental intervention fared better than those who could only predict when it would occur, but both of these groups fared much better than those who could neither predict or control, and those who did not experience the intervention. Improvement was indicated by fewer trips to the infirmary, less use of medication, especially pain medication, and higher scores on psychosocial measures. Schulz concluded that:

...to the extent that aged individuals are able to maintain a predictable and controllable environment, they should experience relatively less physical and psychological deterioration with increasing age.<sup>32</sup>

Langer and Rodin found in an experiment that increasing choice and personal responsibility for aged nursing home residents had similar results.<sup>33</sup> They argue that nursing homes are virtually decision-free environments and that this negatively affects residents. Two comparison groups, including a total number of 47 older persons, were studied. The experimental group received a talk by the nursing home administrator emphasizing their role in making decisions and the gift of a plant to care for by themselves. The comparison group received both the

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<sup>32</sup>Ibid., p. 572.

<sup>33</sup>Ellen Langer and Judith Rodin, "The Effects of Choice and Enhanced Personal Responsibility for the Aged: A Field Experiment in an Institutional Setting," Journal of Personality and Social Psychology 34 (1976): 191-198.

talk and the plant, but the same administrator emphasized the staff's responsibility for the residents in his talk and left the residents with the understanding that the nursing staff would care for the plants. Langer and Rodin found major differences between the two groups, with the experimental (first comparison) group rating much higher on measures of happiness, alertness, and activity and showing less debilitation.

Both Schulz and Langer and Rodin did follow-up studies.<sup>34</sup> Schulz found that the positive effects of the experimental treatment were not long term. In fact, the groups from the experimental intervention experienced "precipitous declines" once the study was over. Schulz explains this outcome by suggesting that the termination of the positive experimental treatments only served to reinforce to the study participants how little control they really had. They exercised control within the bounds of the study but not beyond. Schulz and Hanusa state:

Subjects' expectations for controlling or predicting important events in their lives may have been raised by the interventions used and then abruptly violated when the study terminated and experimenters and visitors disappeared.<sup>35</sup>

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<sup>34</sup>Richard Schulz and Barbara Hanusa, "Long Term Effects of Control and Predictability-Enhancing Interventions: Findings and Ethical Issues," Journal of Personality and Social Psychology 36 (1978): 1194-1201; and Judith Rodin and Ellen Langer, "Long Term Effects of a Control-Relevant Intervention with the Institutionalized Aged," Journal of Personality and Social Psychology 35 (1977): 897-902.

<sup>35</sup>Schulz and Hanusa, 1978, p. 1199.

Contrary to Schulz's follow-up findings, Langer and Rodin found that the "beneficial effects" of their experimental interventions were prolonged. Langer and Rodin used an intervention which stressed subject's feelings of control over a wide range of daily events. Rather than exercise control over a single external agent, Rodin and Langer attempted to impress subjects with the view that they could exercise control over their own activities and lives. The nursing home administration actually increased its responsiveness to residents, further emphasizing their control. This, according to the investigators, accounts for the sustained effects.

In a now famous study of social work intervention and the elderly, Margaret Blenkner and her colleagues performed a field experiment which confirms in reverse the findings of the Schulz and Langer and Rodin experiments. They found that older people in two experimental groups which received intensive social services non-voluntarily, became ill and died at a much greater rate than did the unserved controls.<sup>36</sup> The investigators theorized that the stress induced by the non-voluntary nature of the intervention led to the lower survival rates. Wasser reasoned that an individual's "survival is likely to

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<sup>36</sup>Margaret Blenkner, "Service and Survival," Paper presented at the 8th International Congress of Gerontology, Washington, D. C., 26 August 1969.

depend as much on retention of his sense of self, of which his will is central as on the amelioration of the deteriorating forces in his personal and social structure."<sup>37</sup> Wasser suggests that the service intervention reduced the 'clients' "sense of self" and "will" by overpowering their resistance and demonstrating how limited their control was over their own lives.

### Relocation Effect

The quasi-experimental studies of the effects of relocating elderly residents of mental hospitals and nursing homes report findings similar to those reported above. In the early 1970s the federal government, in response to a rash of highly publicized nursing home fires, promulgated new fire safety regulations governing the physical plant of long term care facilities. In addition, in line with the trend towards deinstitutionalization, mental hospitals were emptying their "chronic" and "geriatric" wards. Large numbers of chronically ill, older persons were relocated from mental hospitals to boarding homes and from hazardous nursing homes to nursing homes which passed the new fire safety code. Several investigators studying these moves found an association between these moves and an increase in morbidity and

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<sup>37</sup>Edna Wasser, "Protective Practice in Serving the Mentally Impaired Aged," Social Casework (October 1971): 510-522.



mortality which they termed relocation effect.<sup>38</sup> Other researchers concluded that relocation effect was indeed dangerous but could be mitigated with proper preparation.<sup>39</sup>

Morton Lieberman, a psychologist, reviewed relocation studies and ventured several reasons for relocation effect.<sup>40</sup> He reasoned that the risk of relocation is a function of the relocated person's personality characteristics, the difference between the old and new environments and the physical condition of the relocated person. Lieberman concluded that among personality variables "the personality variable of hopelessness or despair was the single most powerful predictor of outcome."<sup>41</sup> This variable was influenced by the relocated person's degree of choice and control with regard to the move. In addition to the ability to exercise choice and control, Lieberman suggested that great differences between the old and the new environment caused stress. In the case where an older person's physical health and functioning were low, adaptation to a very different new environment created stress. Lieberman argued

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<sup>38</sup>Carl Eisdorfer and M. Powell Lawton, The Psychology of Adult Development and Aging (Washington, D.C.: American Psychological Association, 1973), pp. 619-674.

<sup>39</sup>Dr. Leon Pastalan suggested this as an approach to reducing the harmful effects of relocation. The State of Pennsylvania actually adopted this view as policy in the early 1970s and implemented Nursing Home Relocation Teams.

<sup>40</sup>Morton Lieberman, "Relocation Research and Social Policy," Gerontologist 14 (December 1974): 494-501.

<sup>41</sup>Ibid., p. 496.

that where the new environment enhances the resident's autonomy, the stress caused by the difference in environments is ameliorated.<sup>42</sup> Lieberman writes that environments which enhance autonomy are facilitative - they vest control with patients, differentiate among them and permit them privacy.

Schulz and Brenner in their review of relocation studies argue that the ability to predict and exercise control over events is the critical issue in relocation and that these variables can best explain the outcomes described in relocation studies.<sup>43</sup> Schulz and Brenner state that relocation outcome is largely determined by the perceived predictability and controllability of the events surrounding a move, and by differences in controllability between pre- and post- relocation environments. Predictability decreases uncertainty, thereby bringing one closer to being able to manipulate one's environment. Schulz and Brenner explain that the reason why large differences between pre- and post-relocation environments cause stress is that the greater the differences, the less predictable the new setting.<sup>44</sup> This would also explain

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<sup>42</sup>Ibid., pp. 499,500.

<sup>43</sup>Richard Schulz and Gail Brenner, "Relocation of the Aged: A Review and Theoretical Analysis," Journal of Gerontology 32 (1977): 323-333.

<sup>44</sup>Ibid., p. 324.

why relocation preparation is of help. Schulz and Brenner conclude that: (1) the greater the choice the individual has in being relocated, the less negative the effects of relocation; (2) the more predictable the new environment is, the less negative the effects of relocation; and, (3) an individual's response to relocation can be mediated by differences in environmental controllability such that decreases in controllability will negatively affect relocatees while increases will lead to positive effects.<sup>45</sup>

### Learned Helplessness

Martin Seligman's theory of helplessness suggests that individuals learn to feel helpless. Individuals can, therefore, learn not to feel helpless. Seligman proposes that helplessness is a consequence of perceiving events as uncontrollable and that sustained helplessness causes fear, depression, and, in some cases, death.<sup>46</sup> He describes in detail the features which are common to feelings of helplessness and depression and argues that both can be lessened by increasing the perception of personal control.<sup>47</sup> In developing his argument, he reviews the literature on experiments with animals and humans. Lefcourt, several years earlier, said "...the illusion that one can exercise personal choice, has a

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<sup>45</sup>Ibid., p. 331.

<sup>46</sup>Martin Seligman, Helplessness (San Francisco: W. H. Freeman and Company, 1975).

<sup>47</sup>Ibid., p. 106.

definite and positive role in sustaining life."<sup>48</sup>  
 Seligman concurs. He argues that it is the expectation of controllability, not the actual exercise of control, which is crucial to not feeling helpless. Feelings of helplessness occur when this expectation or perception of control is dashed.

Seligman reports that in experimentation with rats and dogs, investigators have learned that helplessness "saps the motivation to initiate responses."<sup>49</sup> That is, it retards the ability to act aggressively, defend, or escape from aversive conditions. Helplessness actually alters perception by undermining the ability to perceive successes. The helpless subject views responses as unsuccessful even when they are not (like Rotter's unsuccessful psychotherapy patients).

If negative outcomes are in fact uncontrollable, the subject manifests fear until he becomes convinced that the outcome is indeed uncontrollable. The subject then becomes despondent or depressed. This sounds very similar to locus of control theory described earlier. Experiencing uncontrollable events leads to a generalized expectancy which Rotter would call "externality" and Seligman would call "helplessness". Like Schulz, Seligman

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<sup>48</sup>Herbert M. Lefcourt, "The Function of the Illusions of Control and Freedom," American Psychologist (May 1973): 424.

<sup>49</sup>Seligman, 1975, p. 49.

reasons that unpredictability, like uncontrollability, has a negative impact.<sup>50</sup> Unpredictability causes anxiety because the occurrence of traumatic events cannot be foreseen. Helplessness and ensuing fear and depression can be ameliorated, if not reversed, by teaching subjects that outcomes are contingent upon their own behavior.<sup>51</sup> Referring to Seligman's theory, Langer and Rodin suggest its applicability to older people:

The implications of these studies for research in the area of aging are clear. Objective helplessness as well as feelings of helplessness and hopelessness--both enhanced by the environment and intrinsic changes that occur with increasing old age--may contribute to psychological withdrawal, physical disease and death. In contrast, objective control and feelings of mastery may very well contribute to physical health and personal efficacy.<sup>52</sup>

This statement typifies the primary thrust of the literature reviewed.

### Summary

The literature review was undertaken to shed light on several questions. First, how has the notion of the autonomy of older persons been variously conceptualized? Second, what have investigators learned about the role autonomy plays with respect to the well-being of older persons?

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<sup>50</sup>Ibid., p. 112.

<sup>51</sup>Ibid., p. 101.

<sup>52</sup>Langer and Rodin, 1976, pp. 192-3.

The common thread running through the literature is the idea of control over events. Many different expressions are employed including:

- (1) control over one's own life;
- (2) self-determination;
- (3) decision making;
- (4) the exercise of choice;
- (5) predictability; and
- (6) controllability.

The term "autonomy" is also mentioned several times. Each of these expressions is employed to refer to an individual's ability to manipulate the world rather than be manipulated.

The studies reviewed above fall into two main camps, one with a psychological orientation and the other with a more behavioral orientation. The locus of control studies and discussion of helplessness deal with the perception of autonomy. An individual fares better or worse to the extent that he perceives himself as autonomous. Other studies, e.g., Schulz and relocation effect, focus on control behavior or actual autonomy; experiencing acting autonomously has an impact on well being. Is the important aspect of autonomy phenomenological or behavioral? If it is behavioral, then what particular areas of one's life are critical to establishing one's own identification as autonomous? And to what extent must one be self-directing,

or exercise actual control in order to generalize that one is self-directing or in control? Obviously, it is not possible to exercise control over every aspect of life; nor can one resist all external forces. Measuring actual autonomy becomes extremely problematical for the investigator must weigh different activities- some are more important than others -and sort out outside influences on behavior. The question of influences on autonomy also comes up in regard to perceived autonomy. What enhances or inhibits the perception of autonomy? The literature reviewed here is unclear on this. With respect to measuring perceived autonomy, however, the difficulties are much fewer. Influences on perception do not have to be sorted out in order to measure the perception.

The literature is clear in providing evidence that autonomy and well-being are interrelated. Whether one looks at perception or behavior, both types of studies support the view that the enhancement of autonomy enhances well-being and the diminishment of autonomy diminishes well-being. Those who possess a generalized expectancy or general outlook that they have an impact on events tend to be better off than those who, in similar circumstances, feel that they have little impact on events. There is also a general consensus in the experimental literature that increasing autonomous behavior is associated with improvements of

various kinds.

There is evidence to support the rival view that enhancing autonomy is not of value for everyone. Congruence theory suggests that some individuals will fare better if their lack of autonomy is reinforced. What is important for well-being is not the extent of autonomy an individual has but, rather, the closeness of fit between the level of autonomy he needs and the level the environment makes available. In this view, some individuals would do better in environments where they can be directed rather than self-directing. This view presents an appropriate foil for testing the idea that autonomy is basic to well-being.

As for the question concerning service intervention necessarily lessening client autonomy, the literature reviewed is fairly silent. Langer and Rodin describe institutional settings for the elderly as decision-free environments. Yet their own study is successful at ameliorating this. Lieberman describes a facilitative or autonomy enhancing environment and suggests that they do exist. The emphasis of the review here has been on the relationship between autonomy and well-being, and the question about services and institutions enhancing or inhibiting autonomy is derivative. If autonomy is basic to well-being as some evidence suggests, then this derivative question becomes very important.



## CHAPTER III

### METHODOLOGY

#### Introduction

A life care community of older persons called Kendal, is organized around a belief in the importance of sustaining resident autonomy. Staff and residents believe that a resident who is autonomous will be better off in some measurable way than a resident who is not. A review of the literature on older people and autonomy identified several ways to conceive of autonomy. One conceptualization which is particularly useful is the notion of locus of control orientation. In this conceptualization, individuals who generally believe that they can have an impact on events occurring in their own lives are described as having an internal expectancy for control. Those individuals who believe that outcomes or events in their lives are determined by social forces, chance or powerful others are described as having an external expectancy for control. The locus of control conceptualization of autonomy will be adopted for use in this study for several reasons. First, it conveys an understanding of autonomy which is consistent with meaning of the term as used at Kendal. Second, it is a conceptualization which focuses on the perception of autonomy rather than attempting to

define actual autonomy, a more problematic approach. Third, locus of control measures are used in a majority of studies reviewed which look at some notion of autonomy and the elderly. Lastly, the locus of control concept lends itself to measurement in a social survey.

A great deal of the evidence reviewed suggests that older persons who perceive themselves as autonomous fare better than those who do not. The literature also suggests that increasing the perception of autonomy leads to improvement in well-being. A reasonable and plausible rival view proposed by proponents of person-environment congruence theory argues that perceived autonomy is just one dimension of need among many. Like other needs, individuals have more or less of a need to perceive themselves as autonomous. Those who perceive themselves as low on autonomy will, in this view, fare better if their perception is matched or reinforced by a low autonomy enhancing setting. Thus, in this view, some individuals will fare better if they perceive themselves as non-autonomous.

The Kendal life care community lends itself well to testing the accuracy of these two views. It has healthy residents who live in a rather unstructured apartment setting as well as more ill, disabled residents living in a structured, institution-like health center setting. If congruence theory holds, we would expect to find less of an association, and possibly an inverse associa-

tion, between autonomy and well-being among the health center residents.

### Hypotheses

This study will look at the association between autonomy and two measures of well-being among residents in both settings. A psychosocial measure and a physical health measure will be chosen as the dependent well-being variables. The study hypotheses are:

- (1) perceived autonomy is positively associated with life satisfaction;
- (2) perceived autonomy is positively associated with physical health status; and
- (3) these associations will hold for both apartment residents and health center residents.

Confirmation of hypotheses (1) and (2) will provide added evidence that perceived autonomy is an important element in accounting for an older person's well-being. Confirmation of hypothesis (3) will tend to disconfirm the congruence theory view that some individuals fare better with a low perception of autonomy. Confirmation of these three hypotheses will provide evidence to support the view that the social work profession's concern for client autonomy is not simply a lofty value but rather a recognition of a basic human need.

The population chosen for this study is a group of older persons who live at a life-care community, Kendal at Longwood. Kendal is located about 30 miles west of Philadelphia on an 85 acre campus in rural Chester County. There are approximately 80 such communities nationwide, a dozen in Southeastern Pennsylvania.<sup>1</sup> Like other life-care communities, Kendal is an amalgam of characteristics of a retirement community and a nursing home. For a one-time payment and a monthly fee, Kendal residents are guaranteed housing, meals, supportive services and health care to the extent of need for the rest of their lives. The majority of residents are "well-elderly" but some need intermediate or skilled nursing care. The well elderly live in apartments which radiate from Kendal Center (see map and brochure on inside back cover). Kendal Center houses administrative offices and the various service departments as well as activity areas for the residents. Residents who become acutely ill can convalesce in "Westmorland House", a licensed, skilled nursing wing of Kendal Center. Residents

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<sup>1</sup>Nora Adelman, Directory of Life Care Communities (Kennett Square, PA: Kendal/Crosslands, 1978)

needing long term support, but at a lower level than provided at Westmorland House, live in "Cumberland House," another wing of Kendal Center. Some residents coming to Kendal move directly into Cumberland House although most have come from the apartments because of deteriorating health or functioning.

The residents of Kendal are a homogeneous group, racially, religiously and socioeconomically. They are primarily white, Protestant and retired business executives, professionals, or academics. Most are from the Eastern Seaboard, many from the Philadelphia and Wilmington area. Because of its Quaker origins, Kendal has a large proportion of Quaker residents - almost 30 percent. The mean age is 79. As in all life care communities, residents move to Kendal with the expectation that they will live there until they die.

Kendal administration makes policy for the community and manages the physical plant and services, but the spiritual, cultural and social life of the community is entirely under the control of the residents. The Residents Association and its 44 standing committees have

a large impact on daily life by managing entertainment and recreation, craft activities, interior and exterior decoration of common areas, and many services ranging from Kendal tours to the Reserve Fund for residents needing financial aid.

Life for the 265 apartment dwellers is not unlike life for older people living in a high-quality apartment setting in the outside community. Almost all apartment residents are ambulatory; many have automobiles. The apartments are fully equipped and residents do their own food shopping. Alternatively, residents can choose to eat all meals at the Kendal Center dining room. House-keeping, linen service and maintenance are provided to all residents. Despite the proximity of the apartments, privacy is achieved. For example, apartment dwellers expect each other to phone before visiting.

Cumberland House is a very different setting from the apartments due to a combination of its physical characteristics and the poorer health and lower functioning of its residents. Many of the 47 Cumberland residents have difficulty ambulating and several evidence signs of organic mental impairment. The upper floor of Cumberland (there are two levels) has a nurses' station which is staffed around the clock. Medications, information and assistance are provided there. Lounges are scattered throughout the two floors but are infrequently used by

residents, who prefer to spend much of their time in their rooms. Unlike the apartments, all of the rooms are singles and none have kitchenettes. Each room has a private, adjoining bathroom. Congregate kitchen facilities are available on each floor, but are seldom used. Cumberland has its own dining room; most residents of Cumberland have their meals there. The social worker and recreation therapists have their offices located on the lower floor of Cumberland. Partly because of that and because of a higher utilization of health services, staff presence is greater in Cumberland than at the apartments. On the upper floor, where the residents have greater health problems, there is an unwritten rule that residents should let the nurses' station know when they are leaving Cumberland. It is rare to see an apartment resident visiting in Cumberland or eating in the Cumberland dining room.

Residents' rooms are furnished with the residents' own furniture and belongings. They may close their doors and can expect not to be disturbed. They are able to participate in the life of the community to the extent they desire and are able. Their health status limits them, and they have to rely on help from others to a greater extent than do the apartment residents. The differences between the two settings are: (1) a greater reliance on formal supports in Cumberland,

- (2) a greater chance for privacy in the apartments;
- (3) a noticeable staff presence in Cumberland; and
- (4) a wider participation in the activities of Kendal by apartment residents.

Westmorland House, the skilled nursing wing, is the permanent home for 15 of its residents. The rest of the residents there are staying temporarily while they recuperate from an illness or surgery. Westmorland serves the function of an infirmary for Kendal and, as one would expect, turnover is high. Because they are acutely ill or rather severely debilitated, Westmorland residents spend most of their time in their rooms. Meals are eaten there or, for some, in the Cumberland dining room. As with Cumberland, it is rare to see apartment residents frequenting Westmorland, except as patients.

### Sample

This study includes residents from both the apartments and Cumberland. Because the number of residents in Westmorland is so small, and turnover is so high, this group was excluded from the study. Because the apartments and Cumberland are such different settings, their respective residents were treated as two different populations. A sample of 100 apartment residents was selected using random sampling with



replacement.<sup>2</sup> The population of Cumberland was used in its entirety because it is so small to begin with and sampling might have created statistical problems of adequacy.

One typical sampling problem which occurs when surveying older persons arises because some show evidence of mental impairment, which may or may not interfere with responding to survey questions. Age-related organic mental impairment, evidenced by short-term memory loss, disorientation and confusion, occurs gradually.<sup>3</sup> Thus some older persons are intermittently clear; others are minimally impaired. The issue in sampling is whether to make an a priori clinical judgment that such persons should be excluded from the sampling frame or choose to interview all who may be capable of responding, leaving it to the interviewer to judge if they are comprehending or not. The cost of a priori exclusion is loss of representativeness of the sample. There is also the more subtle cost of labeling and exclusion without being certain of inability. In the case of the Cumberland

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<sup>2</sup> Hubert Blalock, Social Statistics, 2nd ed. (New York: McGraw Hill, 1972), pp. 554-557. The Rand random digits table was used.

<sup>3</sup> Ewald W. Busse and Eric Pfeiffer, Mental Illness in Later Life (Washington, D.C.: American Psychiatric Association, pp. 89-106; Adrian Verwoerd, Clinical Geropsychiatry (Baltimore: Williams and Wilkins, 1976), pp. 34-39; Robert Butler and Myrna Lewis, Aging and Mental Health (Saint Louis: C. V. Mosby, 1973), pp. 68-82.

group, excluding those showing signs of mental impairment would have been noticed and would have further reinforced their identity as disabled among their peers.

On the other hand, interviewing residents without regard to their mental functioning resolves the sampling issue but raises a validity problem. How does the interviewer know if the respondent truly comprehended the survey questions and responded to them with comprehension? Once again a clinical judgment must be made, this time by the interviewer, based on his experience with the respondent at the moment of the interview. Before deciding on which strategy to follow, both complete sampling frames were reviewed by the Kendal primary-care nursing staff who were asked to identify any resident they felt would not be able to understand and respond to the survey instrument. The nurses knew each resident individually and were best qualified among Kendal staff to render such a judgment. No resident was identified from either group as being impaired to such a level. A caution was raised that some residents had "bad days" but that on their "good days" they were perfectly lucid. Based on this nursing judgment, no residents were excluded a priori from the sampling frame because of a history of symptoms of mental impairment. This was deemed the more desirable course because it preserved representativeness and did not prejudge capacity. The decision to exclude interview

data because of mental impairment was made during the interview. If the respondent was unable to focus, unable to answer the beginning identifying data questions (e.g., What was the highest grade of high school you completed? Have you ever been married? What kind of work did you do most of your life?) or evidenced signs of confusion or disorientation during the interview, the interview was excluded from analysis. Using this approach, five Cumberland and two apartment respondents were judged to be unable to furnish satisfactory answers.

#### Variables and Instruments

The theoretical orientation which underpins this study is that the perception of autonomy is significantly associated with well-being. Specifically, it is hypothesized that older persons who perceive themselves as more autonomous will evidence higher health status and life satisfaction than do older persons who perceive themselves as less autonomous, and that this will occur regardless of setting. The primary independent variable in this study is the perception of autonomy. The two dependent variables are health status and life satisfaction. Other independent variables included in the study, which will be treated as intervening (control) variables in the data analysis, are: age, sex, marital status, socioeconomic status, length of residence, and whether or not the respondent lives alone. These additional variables

are included primarily in order to test if the hypothesized relationships vary for different sub-groups.

### Instruments

Two general considerations were reflected in the choice of instruments. Instruments should be valid and, preferably, standardized for use with older persons.

In the interest of generating data which could be compared with the finding of other investigators, commonly used instruments were preferred.

### Perceived Autonomy

A review was done of studies appearing in the gerontological literature, over the past ten years which contained an operationalization of autonomy or a related concept.<sup>4</sup> Eleven studies were identified (see Appendix A). Two of these studies employed experimental designs and the remaining nine were surveys. Six of the nine surveys used a measure of locus of control or the extent to which one assigns agency for outcomes to oneself.

Of these, only one investigator employed a measure which was validated for use with older persons.<sup>5</sup> The

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<sup>4</sup>The review included articles in the Journal of Gerontology, Gerontologist, and papers read at the Annual Scientific Meetings of the Gerontological Society.

<sup>5</sup>Stephen Wolk, "Situational Constraint as a Moderator of Locus of Control - Adjustment Relationship," Journal of Consulting and Clinical Psychology 44 (1976); 420-427.

common practice was to develop a study-specific measure<sup>6</sup> or shorten a validated measure and hope that it would retain its validity.<sup>7</sup> It was not the practice to report on the validity or reliability of the new or adapted measure. The review of measures led to the conclusion that there was a paucity of fully validated measures of autonomy from which to choose.

The choice was rather quickly narrowed down to the Rotter Internal-External Locus of Control Scale (1966) or the Nowicki-Strickland Locus of Control Scale - Geriatric Form (1974). The former scale has been the focus of hundreds of validating studies. Fully 50 percent of all locus of control studies done up to 1973 used the Rotter Scale.<sup>8</sup> It is generally accepted as a valid measure of the perception of control over one's own life.<sup>9</sup> Unfortunately, the Rotter Scale was validated for use with college-age populations and while an unvalidated short-

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<sup>6</sup>Barbara Felton and Eva Kahana, "Adjustment and Situationally-Bound Locus of Control Among Institutionalized Aged," Journal of Gerontology 29 (1974): 294-301; Stephen Wolk and Sharon Telleen, "Psychological and Social Correlates of Life Satisfaction as a Function of Residential Constraint," Journal of Gerontology 31 (1976): 89-98.

<sup>7</sup>J. A. Kuypers, "Internal-External Locus of Control, Ego Functioning and Personality Characteristics in Old Age," Gerontologist 12 (1972): 168-173; Erdman Palmore and Clark Luikart, "Health and Social Factors Related to Life Satisfaction," Journal of Health and Social Behavior 13 (March 1972): 68-80.

<sup>8</sup>J. P. Robinson and P. R. Shaver, Measures of Social Psychological Attitudes (Ann Arbor: Survey Research Center, 1978), p. 228.

<sup>9</sup>Ibid., p. 228.

form exists (Valecha and Ostrom, 1973) a geriatric form does not.<sup>10</sup> Correspondence with the author did not uncover an existing scale or point to a way of adopting the present one for use with older persons.<sup>11</sup> In addition, the Rotter scale requires a sophisticated reading level, is lengthy and rather difficult to use.<sup>12</sup> It requires the respondent to comprehend and retain two different assertions simultaneously and then choose between them.

The Nowicki-Strickland Scale, a thirty-seven item, forced-choice format scale was selected for this study.<sup>13</sup> It was developed in 1973 and validated for use with non-college-age adults.<sup>14</sup> The geriatric form (GNSIE) was subsequently developed and represents a very slim departure from the original scale.<sup>15</sup> Three items from the original forty were deleted due to irrelevance to

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<sup>10</sup>Kuypers (1972) used a 10 item short form of the Rotter scale taking the items with the highest biserial correlation. Its validity has not been reported.

<sup>11</sup>Dr. Julian B. Rotter to David Eisenberg, 7 August 1979.

<sup>12</sup>Stephen Nowicki and Marshall Duke, "A Locus of Control Scale for Noncollege as well as College Adults," Journal of Personality Assessment 38 (1974): 136.

<sup>13</sup>Research Instrument Bank in Aging, "Nowicki-Strickland Locus of Control Scale Geriatric Form (GNSIE)," (Kansas City, Mo., no date), (mimeographed), p. 1.

<sup>14</sup>Stephen Nowicki, "The Adult Nowicki-Strickland Internal-External Control Scale (ANS-IE) College and Non-college Forms," (Atlanta, no date), (mimeographed), p. 3.

<sup>15</sup>Ibid., p. 3.

the age group;<sup>16</sup> six items were reworded.<sup>17</sup> The mean scores for a group of 66 older persons (mean age - 78.5) was 8.74 (sd = 3.59) which is not very different from the mean score for college-age adults ( $\bar{x}$  = 9.06, sd = 3.89).<sup>18</sup> The GNSIE scale scores "external" responses so that the higher the score, the less autonomous the respondent perceives himself to be.

### Health Status

Several choices existed for measuring health status. The most costly and obtrusive choice would be to have each respondent agree to a physical examination by a physician. A similar and time consuming route would be to review physician's records on each respondent. Alternatively, a self-rating of health status could be employed. A review of the literature on the self-rated health of older persons was completed in order to assess the value of such an approach. Nine studies were identified, dating back to 1958. The literature describes two general approaches to self-ratings - health "indexes" and "global" self ratings. A health index elicits specific bits of information from respondents about health and sickness experience in the

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<sup>16</sup>Ibid., p. 3.

<sup>17</sup>Ibid., pp. 3-6.

<sup>18</sup>Ibid., p. 2.

form of signs, symptoms, diagnoses and health service usage. The global self-rating asks simply, "How would you rate your current health - excellent, good, fair or poor?"

The literature suggested that self-ratings of health are valid measures of health status and, indeed, that there was significant agreement between global self-ratings and physician's ratings.<sup>19</sup> The use of indices has problems in that it relies heavily on a respondent's memory and on the quality and extent of communication with his or her physician. In general, it was found that among older persons, self-ratings are inadequate for reporting specific disease or illness conditions.<sup>20</sup> On the other hand, the global self-ratings were found to be a better predictor of future health status than physician's ratings.<sup>21</sup> There was no evidence in the literature to suggest that index ratings were "better" or "more objective"

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<sup>19</sup>George Maddox, "Some Correlates of Differences in Self Assessment of Health Status Among the Elderly," Journal of Gerontology 17 (1962): 180-185; George Maddox and Elizabeth Douglass, "Self-Assessment of Health: A Longitudinal Study of Elderly Subjects," Journal of Health and Social Behavior 14 (1973): 87-93.

<sup>20</sup>Thomas Tissue, "Another Look at Self-Rated Health Among the Elderly," Journal of Gerontology 27 (1972): 91-94.

<sup>21</sup>Maddox, 1962, pp. 180-185; Maddox and Douglass, 1973 pp. 87-93; and Ethel Shanas; Peter Townsend; Dorothy Wedderburn; Henning Friis; Paul Milhøj; and Jan Stehouwer, Old People in Three Industrial Societies (New York: Atherton Press, 1968), p. 51.



than the global rating method. The limitation of the global measure is that it does not uncover specific health problems, symptomatology, or rate functional capacity.<sup>22</sup> It does measure health status and does predict health-related social behaviors such as self-identification as "sick" and the use of health services.<sup>23</sup> Based on this literature review, the global self-rating of health status was adopted for use.

Out of interest and curiosity, and at the suggestion of M. Powell Lawton, an observed global health measure was also included in order to see which measure would be the most robust. Two primary-care nurses, one familiar with the Cumberland group and the other familiar with the Apartment group, were asked to use the same global measure to rate the health status of the respondents. They were each handed a list of study subjects and asked, "How would you rate each resident's health - excellent, good, fair or poor? Both self-rated and observed health status scales are scored such that the higher the score the lower the health status. For a more detailed discussion of self-rated health, see Appendix B.

### Life Satisfaction

The most highly used and well-respected single measure of life satisfaction in gerontological research

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<sup>22</sup>Maddox and Douglass, 1973, p. 91.

<sup>23</sup>Maddox, 1962, p. 180.

is the Life Satisfaction Index A (LSIA) (Neugarten et al., 1961) developed in 1960 by Neugarten, Havighurst and Tobin.<sup>24</sup> Subsequent investigators have found it to be valid, reliable and theoretically sound.<sup>25</sup> The LSIA measures the extent to which an older person is satisfied with his past and present life. Factor analyses typically identify five factors: (1) "zest versus apathy" or "enthusiasm and ego-involvement"; (2) "resolution and fortitude" or "the extent to which a person accepts personal responsibility for his life," (3) "congruence between desired and achieved goals;" (4) "self-concept"; and (5) "mood tone". Subsequent analyses by Adams (1969)<sup>26</sup> and Wood, Wylie and Sheafer (1969)<sup>27</sup> have resulted in the exclusions of several items. The revision adopted for this study is the LSIA (Adams, 1969). The LSIA scale is scored such that the higher the score, the more satisfied the respondent.

#### Socioeconomic Status

Some measure of socioeconomic status was thought important for this analysis, primarily because of the uncertainty of its effect. Older persons from middle class

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<sup>24</sup>Bernice Neugarten; Robert Havighurst and S. Tobin "The Measurement of Life Satisfaction," Journal of Gerontology 16 (1961): 134-143.

<sup>25</sup>Delbert Miller, Handbook of Research Design and Social Measurement 3rd ed. (New York: David McKay Co., 1977); pp. 230-238.

<sup>26</sup>David L. Adams, "Analysis of A Life Satisfaction Index," Journal of Gerontology 24 (1969): 470-474.

<sup>27</sup>Vivian Wood, Mary Wylie and Bradford Sheafer, "An Analysis of A Short Self-Report Measure of Life Satisfaction," Journal of Gerontology 24 (1969): 465-469.

or affluent backgrounds may tend to perceive themselves as more autonomous than lower class members of the same cohort because the former actually do wield greater power through economic leverage. Because of the difficulty in assessing socioeconomic status by analyzing retirement income and assets, it was assumed that a more accurate portrayal of status could be generated from analyzing pre-retirement socioeconomic data. The Hollingshead Two Factor Index of Social Position was chosen. This bivariate measure combines weighted scores derived from assessing educational level and occupation. It is especially preferred when analyzing a group which is overrepresented with professional and business personnel.<sup>28</sup> The major criticism of this measure is that it currently needs updating. Considering that the sample consists mostly of individuals who retired shortly after the measure was developed, this is probably in its favor. A more current measure may be less adequate for use with this cohort.

In regard to occupation, women who were primarily housewives during their working lives were classified according to the characteristics of their husbands. This is because "housewife" is not included in the Hollingshead occupation list. The line of questioning was

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<sup>28</sup>Robinson and Shaver, 1973, p. 212.

designed so that a housewife could choose to identify herself any way she pleased - either as holding a paying job or as a housewife. The question to her was, "What kind of work did you do most of your life?"

The Hollingshead scale uses classes (I - V). The higher the number of the class, the lower the socioeconomic status.

## ILLUSTRATION 1

## VARIABLE LIST WITH OPERATIONALIZATION OF MEASURES

VARIABLE	OPERATIONALIZATION	DIRECTION SCORED	LEVEL
perception of autonomy	Nowicki-Strickland GNSIE	1-37, 37 = high externality	interval
health status	global self rating	excellent = 1, poor = 4	interval
observed health status	global self rating	excellent = 1, poor = 4	interval
life satisfaction	LSIA (Adams, 1969)	1-18, 18 = high satisfaction	interval
age	age in years		ratio
marital status	single, married, widowed, divorced		nominal
sex	male, female		nominal
socioeconomic status	Hollingshead Two Factor Index	class I = high class V = low	ordinal
time in residence	months at Kendal		ratio
	months in Cumberland		ratio
alone/ not alone	live alone/ not alone		nominal

See Appendix C for a copy of the study survey instrument.

Procedure

Two years prior to data collection, a series of meetings between the principal investigator, Kendal staff and Kendal residents was held to identify a study topic which would address one or more major themes underlying the Kendal "philosophy" on successful aging. The topic of autonomy was chosen and a study of autonomy was approved by the Kendal Board of Directors and the Kendal Residents Association. One year prior to data collection, a series of informal discussions was held with approximately two dozen Kendal residents in order to become familiar with the community and the concerns of its members and to confirm autonomy as an issue in their lives.

As a part of ensuring informed participation by residents, a letter explaining the study was sent to the entire community two months prior to data collection (Appendix D). A second letter, inviting participation, was sent to those individuals chosen from the sample frame (Appendix D). Both letters were drafted with the assistance of the past president of the Kendal Residents Association. In order to more fully address the concerns of residents who may have been hesitant to participate, informed consent and an appointment on the interview schedule were arranged by a staff member who is frequently in contact with residents and who is also often used as a confidante. The hope was that this procedure would also lessen the refusal rate. Each resident selected for the

sample was phoned by this staff member, invited to participate and reminded of his or her interview appointment just prior to it. Refusals were cheerfully accepted and no attempt was made to persuade participation. Consent was obtained verbally at the time the interview was arranged.

In order to reduce sample attrition from illness and death, the sample was chosen just two months prior to data collection. The interview schedule was arranged for September and October so as to limit the extent to which residents would be away on summer vacation.

A pre-test with twelve randomly selected residents assisted in the refinement of the survey instrument.<sup>27</sup> The pre-test was useful in deciding how long to allow for each interview, what kind of explanations were needed before and after the actual questioning, whether item comprehension would be a problem, what the ordering of different measures should be, and whether residents would be reacting to the interviewer negatively, in ways which could be controlled. The pretest resulted in no substantive changes to the survey instrument. The survey questions themselves took about twenty-five minutes to administer. The other thirty-five minutes were spent in

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<sup>27</sup>Fifteen residents were randomly selected for the pretest. One refused participation and two were away on vacation. Data were collected successfully from eleven residents. One was not able to answer all of the interview questions because, although she wanted to do so, she was too ill to complete the interview.

introducing myself and the study, explaining the forced-choice format, and then, after the questioning, asking the respondent if he or she had anything to say about living at Kendal and offering to answer any questions that he or she might have.

This last bit of exchange was quite important for several reasons. First, the survey questions appeared to the respondents to be different from what they expected to be asked. They expected more open-ended, searching questions about life at Kendal. Affording them the chance to say more allowed them to answer any questions which they felt they should have been asked. This took little additional time but left them much more satisfied with the interview, increased our mutual interest immeasurably, and provided additional data. Secondly, the potential for sample contamination in such a setting is very high because already interviewed residents are in such close contact with soon-to-be interviewed residents. This additional discussion took the focus away from the structured interview items, decreasing the extent to which they might become the topic of dinner-time conversation.

After each interview, a brief note was sent to the respondent, expressing thanks for the respondent's help with the study (Appendix D).

### Ethical Considerations

There were several ethical issues which arose during the course of this study which deserve mention: (1) benefits of the study to participants; (2) risks to participants; (3) securing informed consent from the mentally impaired; and (4) the obligation for post-study respondent debriefing.

It is often easier and simpler for an investigator to develop a study free of the concerns of respondents. Contributions to social science research can certainly be made with this unilateral approach to topic development. On the other hand, there is a great opportunity to increase the contribution of a particular piece of research when it can be conceptualized and developed in line with the needs and concerns of respondents or their host institutions. What is required is the additional, sometimes time consuming, step of helping to articulate the concerns of respondents with a view towards incorporating them as part of the research focus. When gauging the benefits of research to respondents or other study participants this point becomes relevant. To the extent respondents and their host institutions' concerns are articulated, the focus and benefits of a study can be more directly related to such concerns, more so than if the investigator simply makes the much broader claim that his research is contributing to knowledge.



Risks, like benefits, must be consciously considered in any study. Survey research is not typically seen as risky as experimental research because behavior is not manipulated in the same way. Nevertheless, there are risks associated with survey research. Residents at Kendal have been interviewed in studies prior to this study and have reported negative experiences which troubled them for considerable lengths of time afterwards. Survey questions which uncover deeply held or powerful feelings, especially ones which may not have been consciously considered, can leave a respondent upset and confused. Questioning on morale or life satisfaction, for example, may lead a momentarily depressed respondent, by the nature of his answers, to conclude that he is a basically miserable person or that his life was lived in vain. The survey instrument may inappropriately stamp a momentary or temporary feeling as more permanent in the mind of the respondent. Especially when a survey measure does not have psychometric properties, great care must be taken not to let respondents think that elicited feelings or ideas represent their "true" self.

The issue of informed consent is especially troublesome when a study includes mentally impaired participants. Pennsylvania law treats adults as fully competent to enter into agreements unless adjudicated incompetent by a court. Unless adjudicated incompetent, mentally impaired persons are viewed as able to give informed consent to their

participation in a study if they so choose. The problem arises when the investigator strongly suspects that they are nevertheless not competent to give informed consent because of poor mental functioning. Such respondents can give consent, but it is questionable how informed it is, despite the fact that they are considered fully competent under the law. There is no clear remedy for such a situation. In studies where risks exist and benefits are very few, participation by such individuals might best be avoided.

The fourth and last ethical issue is that of respondent debriefing. This potentially time consuming activity is occasionally requested by more interested or concerned respondents. One could legitimately claim that the investigator owes a debt to respondents to explain study results and make himself available to answer their questions which have arisen because of their participation in the study. The dialogue that ensues can be quite rewarding for the investigator and can further humanize the research experience and make it more relevant to the participants.

## CHAPTER IV

### DATA ANALYSIS AND FINDINGS

The data from this study were analyzed with the aid of a Hewlett-Packard HP 3000 series III computer. Data were stored on disk and accessed by cathode-ray tube terminal. Statistical Package for Social Science (SPSS) descriptive and inferential statistics programs were used.<sup>1</sup> The analysis included the computation of descriptive statistics, checks for linearity among the principle hypothesized relationships, the computation of zero-order correlations to measure the direction and strength of association between variables, the computation of partial correlations to assess the impact of the intervening variables, and the performance of step-wise regression analysis to identify the independent variables, in the order of their importance, which account for the most variance in the dependent variables.

As described in Chapter IV, data were collected during one hour interviews with older persons residing in two different settings at Kendal. The first setting,

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<sup>1</sup>Norman H. Nie, Dale H. Bent, and Hadlai C. Hull, Statistical Package for the Social Sciences (New York: McGraw Hill Book Co., 1975).

Cumberland House, is the home for forty-seven older persons. One person refused to be interviewed. One was hospitalized and another was on vacation during the period the interviews occurred. Eight participants were either unable or unwilling to complete the interview. Thus, 36 persons, or 77 percent of this population were interviewed. The data on the Cumberland group reflect the responses of this 77 percent.

Two hundred and sixty-five persons live in the apartments. A random sample of 100 persons was selected to be interviewed. Seventeen persons were either unwilling or unable to complete the interview. Two were on vacation and one was hospitalized during the period when the interviews occurred. This represented a twenty percent loss in sample size which was thought to be too large because it might adversely affect the analysis. Eight pretest interviews were added to this group of eighty, increasing the sample size to 88. This was judged to be acceptable because the pretest group was randomly chosen in precisely the same manner as the survey sample; selection was done with replacement in each case so every case had an equal chance to be chosen for the pretest and the survey sample. No substantive changes were made in the questionnaire or interview format between the pretest and survey, and the time between the end of the pretest and beginning of the survey was only two weeks.

ILLUSTRATION 2

Causes of Sample Attrition, by Setting

Setting	Population	Initial Sample	Causes of Attrition					Total Loss	Replace-ment	Net Sampl
			Refused Interview	In Hospital	On Vacation	Unable to Complete	Unwilling to Complete			
Apartments	265	100	0	1	2	2	15	20	8	88
Cumberland	47	47	1	1	1	5	3	11	0	36

Descriptive statistics were computed first in order to assess the characteristics of each group and the differences between them. As described earlier, surveying observed health and perceived health are both acceptable strategies for learning about an individual's health status. M. Powell Lawton, psychologist and researcher, suggested that data be gathered on both variables and that the most robust variable be used in the analysis. In both groups, the observed health measure's variance was lower than the variance of the perceived health measure (See Table 1).

TABLE 1

A Comparison of the Standard Deviations and Variances of an Observed Health Measure and a Perceived Health Measure, by Respondent Group

Respondent Group	Observed Health		Perceived Health	
	sd	s <sup>2</sup>	sd	s <sup>2</sup>
Cumberland (N=36)	.467	.218	.862	.743
Apartments (N=88)	.653	.426	.761	.579

A check of the frequency distributions for both measures showed a decided absence of extreme scores on observed health. It appears that the nurses who rated observed health were reticent to label any subject as either in "excellent" or "poor" health. Observed health scores clustered fully around "good" and "fair". Perceived health scores evidenced no such clustering. Scores were distributed along the full scale, accounting for the difference in variance between the two measures. Because perceived health was the more robust measure, it was adopted for all subsequent analyses and observed health was dropped.

The descriptive statistics generated on the two groups are shown in Tables 2 through 10.

TABLE 2  
AGE OF RESPONDENTS IN YEARS, BY RESPONDENT GROUP

Respondent Group	$\bar{x}$	sd	$s^2$	Range	Min.	Max.
Cumberland	84.58	6.29	39.51	33	66	99
Apartments	79.15	6.22	38.73	27	66	93

The mean ages of the two groups reflect that the group receiving greater support and service is older than those living in the more independent setting. The mean age of the Cumberland group is five years greater than that of the Apartment group. Ages in both groups appear to spread similarly about their respective means.

TABLE 3  
Gender of Respondents, by Respondent Group

Respondent Group	Male		Female		Total (N)
	Absolute Freq.	Relative Freq. (%)	Absolute Freq.	Relative Freq. (%)	
Cumberland	7	19.4	29	80.6	36
Apartments	23	26.1	65	73.9	88

The distribution by gender is similar for both groups. The ratio of older women to older men (65+) in the United States is currently 134/100. Both groups reflect a smaller proportion of men than is found in the larger population. This is partly a function of age; for those age 85 and over, the ratio jumps to 160/100.



TABLE 4  
MONTHS IN RESIDENCE AT KENDAL, BY RESPONDENT GROUP

Respondent Group	$\bar{x}$	sd	$s^2$	Range	Min.	Max.
Cumberland	53.89	18.26	333.42	64	9	73
Apartments	60.43	19.51	380.43	57	16	73

The apartment group has lived at Kendal about 10 percent longer than the Cumberland group. It should be noted for the Cumberland group that months in residence includes time in the apartments as well as time at Cumberland House.

With respect to length of residence in Cumberland, none of the Apartment group ever resided in Cumberland. The Cumberland group's length of residence in Cumberland averaged 32.61 months (sd = 15.15;  $s^2$  = 229.5; range = 43; minimum = 4; maximum = 47). Thus, on average, the Cumberland group spent very little time living in the apartments - only 20 months at Kendal were spent in the apartments versus 60 months for the Apartment group.

TABLE 5  
 MARITAL STATUS OF RESPONDENTS, BY RESPONDENT GROUP

Respondent Group	Single	Married	Widowed	Divorced	Tot
Cumberland	8 (22.2%)	2 (5.6%)	25 (69.4%)	1 (2.8%)	36
Apartments	18 (20.5%)	37 (42.0%)	30 (34.1%)	3 (3.4%)	88

\*There were no "separated" respondents in either group.

Marital status appears highly similar in both groups, except where the advanced age of the Cumberland group is reflected in the higher percentage of those widowed.

By design, all of the Cumberland residents live alone. Among the Apartment group, 50 lived alone (56.8%) and 38 did not (43.2%).

TABLE 6

## SOCIOECONOMIC STATUS OF RESPONDENTS BY RESPONDENT GROUP

Respondent Group	Social Class					$\bar{x}$	sd	s <sup>2</sup>
	1	2	3	4	5			
Cumberland	11 (30.5%)	20 (56.6%)	5 (13.9%)	0	0	1.83	.655	.429
Apartments	41 (46.6%)	39 (44.3%)	8 (9.1%)	0	0	1.63	.649	.421

The socioeconomic status of the two groups is similar with the Cumberland group evidencing slightly lower status as a group. The absence of classes IV and V in the analysis is conspicuous and clearly pegs both groups on the high side of the range.

TABLE 7

## GNSIE SCORE\* OF RESPONDENTS, BY RESPONDENT GROUP

Respondent Group	$\bar{x}$	sd	$s^2$	Range	Min.	Max.
Cumberland	11.53	4.52	20.43	18	4	22
Apartments	10.19	3.19	10.20	14	4	18

\*GNSIE is the Nowicki-Strickland Internal-External Locus of Control Scale - Geriatric Form. The Score reflects external responses.

Both the Cumberland group and the Apartment group have scores that are higher on externality than the literature reports for non-college age adults ( $\bar{x} = 8.17$ ,  $sd. = 3.59$ ). The Cumberland group is more external than the Apartment group.

TABLE 8

## LSIA SCORE\* OF RESPONDENTS, BY RESPONDENT GROUP

Respondent Group	$\bar{x}$	sd	$s^2$	Range	Min.	Max.
Cumberland	11.25	3.57	12.76	13	4	17
Apartments	13.78	2.43	5.92	10	8	18

\*LSIA is the Life Satisfaction Index - A. The score increases along with satisfaction.

The Cumberland group is lower on life satisfaction than the Apartment group. Cumberland scores vary much more about the mean than do the Apartment scores. The Cumberland group minimum score is also much lower.

TABLE 9

## HEALTH SCORES OF RESPONDENTS BY RESPONDENT GROUP

Respondent Group	Health Rating				$\bar{x}$	sd	s
	1	2	3	4			
Cumberland	4(11.1%)	21(58.3%)	6(16.7%)	5(13.9%)	2.33	.862	.7
Apartments	29(33.0%)	45(51.1%)	11(12.5%)	4(3.4%)	1.86	.761	.5

About 60 percent of all persons over age 60 report good health; this does not change as age increases.<sup>2</sup> Both groups report higher health status (69.4% and 84.1% respectively, report excellent or good health) than the average reported by Shanas. This may be a consequence of their higher socioeconomic status and current life style. Of the two groups, the Apartment respondents clearly have a higher estimate of their health than do the Cumberland respondents.

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<sup>2</sup>Shanas et al., 1968, p. 51.

The Cumberland group reports a higher mean externality score and correspondingly lower health status and mean life satisfaction. Thus the descriptive statistics suggest that low perceived autonomy (high externality) is associated with low health status and low life satisfaction.

TABLE 10

SUMMARY TABLE OF SCORES OF RESPONDENTS  
ON GNSIE, LSIA AND HEALTH, BY GROUP

Respondent Group	GNSIE( $\bar{x}$ )	LSIA( $\bar{x}$ )	Health( $\bar{x}$ )
Cumberland	11.53	11.25	2.33
Apartments	10.19	13.78	1.86

Linearity

Before computing the associations between variables, tests for linearity were performed by generating scattergrams for the principle hypothesized relationships: autonomy and health, autonomy and life satisfaction and

health and life satisfaction. Establishing linearity is critical to the analysis because subsequent statistical techniques assume linearity in order to be properly used and interpreted. Nonlinear relationships can also be analyzed but require the use of different techniques. The scattergrams showed that the health, life satisfaction and autonomy variables do relate to each other in linear fashion.

#### Zero-order Correlations

Zero-order Pearson correlation coefficients were generated. These correlation coefficients indicate the degree to which change in one variable is related to change in another variable. Thus, they summarize the strength of association between variables and indicate the direction of association; either positive or inverse. As hypothesized, autonomy is positively associated with health status and life satisfaction in both groups. That is, high externality is associated with low health status and low life satisfaction.



TABLE 11

ZERO-ORDER CORRELATIONS BETWEEN EXTERNALITY AND HEALTH,  
AND BETWEEN EXTERNALITY AND LIFE SATISFACTION, BY RESPONDENT GROUP

Respondent Group	Correlation			
	Externality and Health		Externality and Life Satisfaction	
	r	p	r	p
Cumberland	.3643	.014	-.3817	.011
Apartments	.2522	.009	-.2564	.008

So as to avoid confusion it should be noted again that the health score increases as health status worsens. Thus the associations shown in Table 14 indicate that as externality increases, so does the health score, which means that health worsens as externality increases. In the case of life satisfaction, the life satisfaction score increases as life satisfaction increases. Thus the associations shown in Table 14 indicate that as externality increases, the life satisfaction score, and therefore the degree of life satisfaction, decreases.

Of considerable interest is the finding that the association between externality and the dependent variables is stronger for the Cumberland group than for the Apartment group. This suggests that the perception of autonomy may play a more important role for the Cumberland group.

Zero-order correlations for all variables are shown in Appendix E. Consistent with the literature, the two dependent variables, health and life satisfaction, are associated in both groups.<sup>3</sup> The associations between autonomy, health and life satisfaction are the largest. Several other associations merit mention. For the

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<sup>3</sup>Reed Larson, "Thirty Years of Research on the Subject Well-Being of Older Americans," Journal of Gerontology 33 (1978): 109,112.

Cumberland group, there is an association between being married and reporting higher perceived autonomy (married: GNSIE,  $-.3008$ ,  $p = .037$ ). Males tend to report higher health status (sex:health,  $-.3579$ ,  $p = .016$ ) and higher perceived autonomy (sex:GNSIE,  $-.2944$ ,  $p = .041$ ). For the Apartment group it should be noted that being widowed has a negative impact on life satisfaction (LSIA:widowed,  $-.2331$ ,  $p = .014$ ). The low correlations between the control variables and the dependent variables suggest that none of them massively intervene. Additional certainty is provided through partialling.

The independent variables are not highly associated among themselves. This absence of multicollinearity on the part of the independent variables is a characteristic which enhances the interpretation of subsequent statistical procedures. Where high multicollinearity is present, interpretation of regression analysis is extremely difficult.<sup>4</sup> This finding suggests that regression analysis of these data may be interpreted more readily than if multicollinearity were present.

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<sup>4</sup>For a discussion of multicollinearity, see Hubert Blalock, Social Statistics (New York: McGraw Hill Book Co., 1972) pp. 457, 464; and Fred Kerlinger and Elazar Pedhazur, Multiple Regression in Behavioral Research (New York: Holt, Rinehart and Winston, 1973), p. 396.

### Partial Correlations

The zero-order correlations show statistically significant associations as hypothesized. It may be that these associations are weaker or stronger than they actually appear or that they are spurious. This is possible if one or more of the intervening variables are enhancing or suppressing the correlations or if an intervening variable is the true covariant while the association with autonomy is spurious.<sup>5</sup>

In order to test whether or not any of the other independent variables are massively intervening, partial correlations were computed. Partialling is a statistical procedure which enables the researcher to remove the effect of a control variable from the relationship between the independent and dependent variables. In this analysis, the associations between externality and health and externality and life satisfaction were scrutinized while controlling other independent variables singly and in all combinations of two and three at a time. Significant deviations from zero-order correlation were noted so as to identify important intervening variables.

In the case of the Cumberland group only one independent variable, length of residence in Cumberland had an important effect. When the length of residence in Cumberland was controlled, the inverse association between externality and life satisfaction increased.

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<sup>5</sup> This is described in great detail in Morris Rosenberg, The Logic of Survey Analysis (New York: Basic Books, 1968), pp. 84-104.

TABLE 12

Change in Zero-Order Correlation Between  
Cumberland Group Externality and Life Satisfaction Scores

Association	Control Variables	Correlation	Significance
Externality: Life Satisfaction	None	-.3817	p = .011
Externality: Life Satisfaction	CUMMOS*	-.4575	p = .003
Externality: Life Satisfaction	CUMMOS, DIVORCED	-.4718	p = .002
Externality: Life Satisfaction	CUMMOS, DIVORCED, SESCLS**	-.4873	p = .002

\*CUMMOS = months in Cumberland

\*\*SESCLS = Socioeconomic Status-Class

The inverse correlation between externality and life satisfaction (see Table 16) increased by .10, when the length of residence in Cumberland was controlled. The length of residence in Cumberland plays a suppressing role, meaning that the longer a resident lives in Cumberland, the less externality is associated with low life satisfaction. This would suggest that residence in Cumberland reinforces externality. The longer residents live in Cumberland, the less their external perceptions negatively affect their life satisfaction. Interestingly enough, the same is not true with respect to health. The inverse association between externality and health is unaffected when controlling for length of residence at Cumberland. This would support the view that the more supportive "institutional" setting encourages externality, but at a cost, because health status still declines as externality increases.

Other independent variables had very little effect on the association between autonomy, health and life satisfaction for the Cumberland group. Whether these other variables were controlled singly or in combination, a change of no more than +.07 from the zero-order correlation is achieved. When age is controlled, the correlation between health and externality is increased by .04. When gender is controlled for, the same correlation decreases by .07. This suggests that gender may contribute to the association

between externality and health. In this case the association is slightly greater for males. When age and gender are controlled simultaneously, the association between externality and life satisfaction decreases by .03. These changes are so small that it is difficult to theorize any ordered impact of them on the principal hypothesized relationships. The magnitude of these changes aside, they do not suggest relationships counter to the hypotheses.

In the case of the Apartment group, the intervening variables appear to serve no role as suppressors or enhancers of the correlations between autonomy, health and life satisfaction. The change from zero-order never exceeds .02 in any of the relationships where independent variables are controlled either singly or in groups of two or three.

The evidence presented by the results of computing these partial correlations is that the hypothesized relationships between perceived autonomy, health and life satisfaction are solidly present and that they continue to hold despite the effects of commonly controlled independent variables. In other words, the associations appear to hold despite the effects of differences in gender, class, age, and marital status. This tends to support the view that these associations are basic ones.

Stepwise Regression

A final step in the analysis was the use of stepwise regression analysis. This technique is different from conventional multiple regression analysis in that it identifies each independent variable which accounts for variance in the dependent variable, in the order of the amount of variance accounted for from most to least. Selection of each variable at each step is based on which one, among those that remain, has the highest partial correlation with the dependent variable. Table 13 displays the results of stepwise regression on the health and life satisfaction of the Cumberland group. The column headed "R<sup>2</sup>" gives the cumulative variance explained. "R<sup>2</sup> Change" is the incremental portion of additional variance supplied by each variable. The "Beta" is the standardized regression coefficient, or beta coefficient, which is free from the effects of the magnitude of each measure. The beta coefficient shows the direct effect of the independent variable on the dependent variable; it excludes indirect effects. The critical parts of these summary regression tables are the order of the variables and the "R<sup>2</sup>" values.



TABLE 13

Stepwise Regression of Health and Life Satisfaction for Cumberland Group

Dependent Variable = Health			
Variable	R <sup>2</sup>	R <sup>2</sup> change	Beta
GNSIE externality	.13	.13	.33*
SEX <sup>†</sup> male = 1	.20	.07	-.31*
MARRIED <sup>†</sup> married = 1	.22	.02	.15*
AGEYRS age in years	.24	.02	.20
KENMOS months at Kendal	.25	.01	.12
SESCLS socioeconomic status	.26	.01	.10
DIVORCED <sup>†</sup> divorced = 1	.27	.01	.09
Dependent Variable = Life Satisfaction			
GNSIE externality	.15	.15	-.38*
CUMMOS months in Cumberland	.24	.09	.23*
SEX <sup>†</sup> male = 1	.27	.03	.26*
DIVORCED <sup>†</sup> divorced = 1	.30	.03	.21*
WIDOWED <sup>†</sup> widowed = 1	.32	.02	.11*
KENMOS months at Kendal	.32	.01	.19
AGEYRS age in years	.35	.02	.22
SESCLS socioeconomic status	.35	.01	.09
MARRIED <sup>†</sup> married = 1	.35	.00	.06

\*\*Only those independent variables which contribute significantly to the variance of the dependent variable are reported.

\*  $p \leq .05$

† Nominal variables were dummied.

Both regressions confirm the results of the partialling; externality is generated first in both regressions with subsequent independent variables playing a clearly secondary role. As a group, the independent variables account for 27 percent of the variance in health and 35 percent of the variance in life satisfaction. Externality accounts for the largest portion of the total amount of variance explained by all of the independent variables. Externality accounts for 13 percent of the variance of health and 15 percent of the variance of life satisfaction. As shown earlier by partialling, there seems to be little of a pattern developing in the strength and order of the other independent variables.

Table 14 presents the step-wise regression for the Apartment group. Once again externality plays the principal role in accounting for the explained variance of both health and life satisfaction. As a group, the independent variables account for 13 percent of the variance of health and 18 percent of the variance of life satisfaction. Externality accounts for 6 percent of the variance of health and almost 7 percent of the variance of life satisfaction. Again, there is no discernible pattern in the sequence of the remaining independent variables.

TABLE 14

Stepwise Regression of Health and Life Satisfaction for Apartment Group\*\*

Dependent Variable = Health			
Variable	R <sup>2</sup>	R <sup>2</sup> change	Beta
GNSIE externality	.06	.06	.27*
SINGLE <sup>†</sup> single = 1	.09	.03	.01*
DIVORCED <sup>†</sup> divorced = 1	.10	.01	.21*
SEX <sup>†</sup> male = 1	.11	.01	.12*
WIDOWED <sup>†</sup> widowed = 1	.12	.01	.20*
KENMOS months at Kendal	.12	.00	.07
SESCLS socioeconomic status	.13	.01	.07
ALONE <sup>†</sup> alone = 1	.13	.00	.13
AGEYRS age in years	.13	.00	.04
Dependent Variable = Life Satisfaction			
GNSIE externality	.07	.07	-.23*
WIDOWED <sup>†</sup> widowed = 1	.11	.04	-.29*
AGEYRS age in years	.14	.03	-.12*
KENMOS months at Kendal	.15	.01	-.11*
SESCLS socioeconomic status	.16	.01	.13*
DIVORCED <sup>†</sup> divorced = 1	.17	.01	-.13*
SINGLE <sup>†</sup> single = 1	.17	.00	-.10*
SEX <sup>†</sup> male = 1	.18	.01	-.07*

\*\*Only those independent variables which contribute significantly to the variance of the dependent variable are reported

\*  $p \leq .05$

<sup>†</sup> Nominal variables are dummied.

In absolute terms, the variance accounted for by the autonomy variable is small. In comparison to the variance explained by all other independent variables taken together, it is considerable. Part of the reason for this variance being small may be that the dependent variables, health and life satisfaction are so global. Complex notions themselves, many variables of all sorts may be required, including intrapsychic and antecedent variables to account fully for the variance of health and life satisfaction. What is important for this analysis is that the autonomy variable plays a consistent role in both groups and with both dependent variables.

A final observation can be made about these data. The fundamental hypothesis of this study is that a person who perceives himself to be autonomous (or more internal) will be healthier and more satisfied than another person who perceives himself as not autonomous (or more external). The major rival plausible hypothesis identified in the literature is that individuals needing a more supportive setting may actually do better by relinquishing control; externality may be more adaptive for this group. A look at the "R<sup>2</sup>" column for both groups shows that externality accounts for over twice the amount of variance in the dependent variables for the Cumberland group than for the Apartment group. In other words, perceived autonomy is more important in accounting for

health status and life satisfaction in the more supportive Cumberland setting than in the more independent Apartment setting. This finding directly contradicts the rival hypothesis and lends further support to the view that as an individual becomes more disabled and needs more support, he needs to feel just as much, if not more, in control of his own life. The perception of autonomy remains critical to well-being.

### Summary

A survey of two groups of older people found that the group which was less healthy and scored lower on life satisfaction also scored lower on a measure of perceived autonomy. Additional analysis found statistically significant associations between low perceived autonomy (high externality) and low health status and life satisfaction. Stepwise regression analysis showed that perceived autonomy accounted for a significant amount of variance in both health and life satisfaction. When comparing the role of perceived autonomy by respondent group, perceived autonomy played a larger role in explaining the variance of health and life satisfaction in the Cumberland group than in the Apartment group. This last finding suggests that as an individual becomes (1) more ill or disabled or (2) moves to a more supportive/constraining environment, the perception of autonomy becomes even more important in accounting for his or her well-being.

The hypotheses of this study were: (1) perceived autonomy is positively associated with life satisfaction; (2) perceived autonomy is positively associated with physical health status; and (3) these associations will hold for both apartment residents and health center (Cumberland) residents. Using a locus of control scale to measure perceived autonomy, all three hypotheses were confirmed. The rival hypothesis suggested by person-environment congruence theory, that some older persons fare better with low perceived autonomy, was not found to hold true in this study.

## CHAPTER V

### CONCLUSIONS AND IMPLICATIONS

A major tenet in the field of human services is that the autonomy of service recipients should be respected and nurtured and developed where absent or weak. Research on protective services for older adults and on the effects of relocating older adults suggests that when autonomy is compromised by service intervention, well-being is negatively affected. Experiments with older persons in institutional settings have shown that enhancing autonomy has the effect of improving well-being in measurable ways. The literature on locus of control and learned helplessness consistently shows an association between perceived autonomy and various measures of well-being.

A caution is raised by proponents of person-environment congruence theory and some practitioners serving older people who suggest that some older persons fare better if they relinquish control to caring others and perceive themselves as low on autonomy. It is thought in this view, that older people experiencing a decline in health and functioning would rather be less autonomous, relying on others to direct them and exercise control over

the events that affect them. Thus there are two conflicting perspectives on the role that autonomy plays with respect to the well-being of older persons. In the first view, the perception of autonomy is basic to well-being; older persons who perceive themselves as autonomous will fare better than those who do not. In the second view, the perception of autonomy is not critical to well-being; in fact, there may be some older people who fare better if they do not perceive themselves as autonomous.

In order to test this question about the importance of perceived autonomy, two different groups of older people, all residents of a life care community, were surveyed. One group lived in an intermediate nursing facility; the other lived in a comparatively independent apartment setting. Using a locus of control scale, which measures an individual's perception of autonomy, data on perceived autonomy, physical health status and life satisfaction were collected from 124 residents. Analysis showed that the perception of autonomy was indeed associated with both life satisfaction and health status. Statistically significant associations demonstrated that higher perceived autonomy is associated with higher life satisfaction and health status. This was found to be true for both groups. In fact, the associations were greater for the more disabled group in the more support-



intensive setting. Step-wise regression analysis confirmed the associations as well as the finding that perceived autonomy plays a larger role in accounting for the health status and life satisfaction of older persons in the more institutional setting.

These findings lend support to the view that the perception of autonomy is basic to the well-being of older persons. They suggest further that as older people become more ill or find themselves in a more institution-like setting, their perception of autonomy is even more critical to their well-being. It may be that the increasing decrements of aging increase the older persons' concern that he may be losing the autonomy he once enjoyed. Moving to a support intensive setting may confirm this fear. If it is true that the perception of autonomy has an impact on well-being, then it makes sense to ponder if increasing service provision to a needy older person has an impact on their perception of autonomy. Langer and Rodin argue that the high level of supports provided in the typical nursing home creates a "decision-free environment" which lessens the resident's perception of autonomy. Can supports be provided in such a way so as to avoid this consequence? The provision of services may decrease the recipient's perception of autonomy to the extent that it usurps remaining competencies. In other words, services which are provided beyond the level

required decrease the recipients need to function to the extent he is still able. His need to function to the extent he can has been diminished. This over-servicing may contribute to a lowered perception of autonomy. If services can be prescribed in areas where functioning is poor or non-existent, and prescribed only to the level needed, the perception of autonomy may actually be enhanced. Further study on environmental (or situational) characteristics which enhance and inhibit the perception of autonomy will tell us if this is plausible.

An obvious limitation to generalizability is that this study involved a community of older persons which is consciously concerned about autonomy. It may be that this group consists of self-selected valuers of autonomy and that findings would be very different with a different group. For example, perceived autonomy may be less important in different cultures or ethnic groups. It may be that Kendal residents are mostly "rugged individualists" who pride themselves on independence rather than collective behavior. Other groups which stress collective behavior and strong ties to group well-being may value personal autonomy much less. Replication of this study among older persons of different ethnic backgrounds could shed light on this.

If the findings of this study can be generalized to apply to all older people, then it has clear implications for long term care. First, the commitment to client autonomy is not just a lofty professional value of social workers and other human service professionals, but an expression of an important characteristic of human behavior. The perception of autonomy actually has survival value, and to the extent helping professionals can support and enhance it, they are having a positive effect in the discharge of their duties. Second, providing support and services to an older person is different than controlling that older person. The paternalistic view that older people need to relinquish burdens by relinquishing control is not borne out by this study. Older people who become ill or disabled may need to relinquish burdens in order to remain in control - services should enhance autonomy, not diminish it.

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APPENDIX A

Studies in the Gerontological Literature,  
1970-1979, Using an "Autonomy" Variable

STUDIES IN THE GERONTOLOGICAL LITERATURE 1970-1979 USING AN "AUTONOMY" VARIABLE

YEAR	INVESTIGATOR(S)	TYPE	VARIABLE AND DEFINITION	OPERATIONALIZATION	VALIDITY	RELIABILITY	FINDINGS
(1) undated	California Department of Mental Health	survey N = 429 discharged mental patients	autonomy = "the extent to which the activities of the patients are rigidly scheduled, or proscribed and proscribed by a series of formal rules"	not described	not reported	not reported	more autonomous environments have larger number of "improved" discharged mental patients - independent of health
(2) 1972	Kuypers	mailed questionnaire N = 64 non-random	locus of control (Rotter, 1961)	10-item short form of the Rotter scale (items with highest biserial correlation)	not reported	not reported	"internals" "cope" better and are less "defensive" and lower on "ego failure"
(3) 1972	Palmore and Luikert	survey N = 502 high refusal rate upper SES population	locus of control (Jessor, 1968)	used only the first-person items of the Jessor scale	not reported	not reported	for those aged 60-71, internality was highly correlated with life satisfaction
(4) 1972	Smith and Lipman	survey N = 259 housing project residents	constrain - no theoretical development of the concept	"a composite variable joining health (physical capacity) and monthly income into a single multivariate index"	not reported	not reported	low constrained respondents evidence higher life satisfaction
(5) 1974	Felton and Kahana	survey N = 124 nursing home residents	situationally-bound perceived locus of control = locus of control viewed in its situational context, especially as it reflects the potential for real control	resident's solutions to nine hypothetical problems in congregate living	not reported	inter-rater r: .82-.93 on Judge's ratings of solutions	externals fared better in 5 out of 6 significant measures of well-being
(6) 1976	Langer and Rodin	experimental group N = 47 comparison group N = 44 nursing home residents	personal responsibility and choice = decision-making about one's own life	administrator's speech emphasizing either personal responsibility and choice or paternal role of nursing home staff; gift of plant to be taken care of by residents (experimentals) or staff (comparisons)	not reported	not reported	experimentals showed major improvement on happiness, alertness, activity compared to comparison group
(7) 1976	Wolk and Telteen	survey N = 129 retirement home residents from two homes	perceived autonomy = environmental constraint = "the presence of constraining rules, the level of personal autonomy and the role of the individual in determining policy"	5-item Likert scale	not reported	not reported	perceived autonomy was a significant correlate with life satisfaction and had a higher correlation in the less constraining setting
(8) 1976	Wolk	survey comparison between residents at two settings: low and high constraining N = 96 (low) N = 70 (high)	(1) locus of control (Nowicki and Duke, 1974)  (2) perceived autonomy (see Wolk and Telteen, 1976 above)	(1) 37 items - yes, no answers for older populations  (2) 5-item Likert scale	(1) specifically developed for older populations  (2) not reported	(1) not done for this sample  (2) not reported	subjects in low constraining setting scored higher on the internal end of scale  locus of control did not correlate with health status
(9) 1976	Schulz	experimental N = 42 four comparison groups of retirement home residents	(1) predictability = level of certainty about the occurrence of an event  (2) control = "the ability to manipulate some aspect of the environment" (includes predictability)	4 different treatments: no treatment; random visits; resident-predict visits; and resident-control visits	not reported	not reported	resident-predict and resident-control groups scored much higher on measures of well-being
(10) 1976	Fawcett, Stonner, and Zepelin	survey N = 56 (all women) nursing home residents	locus of control (Waiecha and Ostrom, 1974)	11 items presented in forced-choice mode	not reported (Waiecha and Ostrom report satisfactory validity and reliability measures)	retest = .76	contradicts Felton and Kahana (1974); Internals showed higher life satisfaction
(11) 1977	Reid, Haas, and Hawkins	two surveys N = 60 N = 147 non-random nursing home residents	situationally specific locus of control = "takes into account the environmental circumstances as well as the interest of the subject population . . ."	scale developed by these investigators - 2 sets of items: 7 measuring desirability of control, and 7 measuring the perceived ability to control	not reported	not reported	internality correlates with "positive self-concept"

APPENDIX B

Measuring Health Status With  
Self Ratings: A Review of Studies

"Measuring Health Status With Self-Ratings:  
A Review of Studies"

Introduction

Interest in self-rated or "perceived" health on the part of gerontological researchers dates back to the late fifties. Initial concern was with whether self-rated health is a valid diagnostic tool; that is does it measure the incidence and severity of disease-states. The focus shifted fairly quickly to investigating attitudinal, behavioral and social correlates of self-rated health. I suspect this was a consequence of methodology leading inquiry; physician ratings are expensive to obtain and survey analysis lends itself to correlational analyses. In 1958, Suchman, et al. concluded that perceived health was a valid measure of subjective perceptions but invalid as a diagnostic tool. Yet, in 1978, Larson's extensive review of the life satisfaction literature shows clearly that self-rated health has become a valued and frequently used measure. Of fourteen studies relating life satisfaction to health, 6 use a pure self-rated health measure, 4 use a self-reported health index, 3 use a combination of self-rating, index and physician rating and only one uses a physician rating alone. What accounts

for this transition? Is self-rated health a valid and reliable measure. What are the limits of its appropriate usage?

For the sake of clarity, a few semantic distinctions are in order. The word "health" in the term "self-rated health" refers to physical health both in this paper and in the literature. It does not include mental, emotional or spiritual health as part of its intended meaning.

A self-rated health measure is found in two forms in the literature. The more "global" measure is a response to the question: "How would you rate your health: excellent, good, fair, or poor?" The "index" measure is handled a bit more ambiguously in the literature. The index is a list of questions about "objective" health status which relies on the memory and inclination of each subject rather than a clinician. That is, it asks clinical questions of subject-respondents; questions which subjects could answer accurately only if they had been informed by an examining physician earlier. Index questions are of the sort: "Do you have high blood pressure?" and "Do you have varicose veins?" Knowledge of diagnoses is required by the questioner and lends an air of objectivity to this line of questioning. Yet because it is highly susceptible to subject-respondent memory, inclination, judgment and frequency of interaction

with health care givers, it is more properly regarded as a self-rating. Sometimes index questions will not ask for diagnoses but rather for signs and symptoms in order to make an off-site diagnosis. Index questions of this sort ask "Do you ever get dizzy?" and "Do you fall frequently?" Again while more specific than the global self-rating it is questionable whether responses are more objective and, I would argue, they fall into the self-rating category.

The observer rating or clinician rating or physician rating is often referred to as the true "objective" health rating as it is more accurate or more correct than any of the self-ratings. This entails physical examination and history-taking by a medical doctor, although the actual constituents of such an examination are not often discussed in the literature. The purpose of such an examination is to uncover the extent of disease and not to measure functioning. Thus the physician's rating is a summary measure of the incidence and extent of disease-states. It is sometimes found in the form of the number of diseases (Stenback, et al., 1976) or as a translation back into the global form used in the self-ratings (Maddox and Douglass, 1973).

### Theoretical Considerations

Any discussion of health status is not complete without at least one admission that the "notion" health itself is both very familiar and yet highly complex. Faulty perceptions



of health can entail either hypochondriasis or denial of illness. Faulty or not, perception of health may actually be more significant than defective health in determining sick role adoption and associated behavior, affective states and the utilization or attempt to utilize medical services. Thus the question of whether or not self-rated health is diagnostically adequate may actually be eclipsed by the consideration of utilization. Sick people may not use services if they don't perceive themselves as sick. Non-sick perceivers of illness may place a great burden on services.

Stated in another way; what do we really know when we hear that 70 percent of all elderly are chronically ill (Stenback, et al., 1978)? This is troublesome because there is no decline with age of elderly persons reporting good health; it consistently hovers at 60 percent (Shanas, et al., 1968). Physicians' ratings "are not necessarily the most accurate estimates of the extent to which a person's condition is painful and debilitating" (Larson, 1968: 112). Thus despite Selitiz's warning about the difficulty of predicting behavior from attitude (Selitiz, 1976), self-rated health may be a more adequate measure than physician rated health if the behavioral consequences

of illness rather than the extent of illness is of primary concern.

### Findings

Nine studies were reviewed. Seven studied aged subjects exclusively. Of these, only three had randomly chosen samples. Only two of the studies were longitudinal; the rest were cross-sectional surveys. All nine studies related self-rated health to either physician rated or index rated health or psychosocial measures. Several of the studies merit specific attention. In 1958, Suchman, Phillips and Streck published the results to two surveys, done in 1952 and 1954, which measured self-rated health, physician's-rated health and several behavioral and attitudinal correlates. They were especially interested in three questions: (1) can self-ratings be used for diagnosis; (2) what are the attitudinal and behavioral correlates, and (3) are self-ratings stable over time. They expected self-rated health to correlate closely with attitudinal measures and physician-ratings to correlate closely with behavioral measures. They found that self-ratings were significantly related to both attitudinal and behavioral measures in the hypothesized direction and used this evidence to argue that self-rated health is a valid measure of "perceived" health. They

also found that subjects showed a tendency towards health optimism. Those found in good health reported good health 70 percent of the time and those in poor health reported poor health in 48 percent of the time. This tendency towards under-estimating illness led to inaccurate reporting of specific conditions leading the investigators to conclude that as a diagnostic tool, self-reported health was "inadequate". They did find a significant relationship between self and physician global health ratings. They also found self-rated health to be stable over time. This study was replicated (Friedsam and Martin, 1963) with essentially the same results (Markides and Martin, 1968).

The Suchman study is important not only because it was the first of its kind but because it is typically cited as evidence against the validity and reliability of self-rated health measures when in fact it makes no such broad claim. Congruence was high on the "good" ratings and may have been higher on both ratings if not forced into the good-poor categories (Maddox and Douglass, 1973). In the light of subsequent studies, it appears that the Suchman study is evidence for the inadequacy of self-rated health in an epidemiological context where the self-rating involves identifying specific conditions.

The Maddox (1962) and Maddox and Douglass (1973) studies are equally important because they serve most

strongly to carve out a place for self-rated health. Four studies show strong relationships between self-rated health and "more objective" health indices but the Maddox and Douglass fifteen year longitudinal study found (1) high congruence between self-rated health and physician ratings; (2) a tendency towards health optimism; (3) both physician and self-ratings are stable over time and self-ratings are more stable; and (4) self-rated health is a better predictor of future physician ratings than the reverse.

In the Garrity study (1978) perceived health was found to correlate closely with "strain" or psychophysiological symptomatology among 314 college students. These investigators, used a Cantril ladder ("Think of your best health. Think of your worst health. Where are you now?") self-anchoring global measure and six independent variables: (1) recent health; (2) life change; (3) perceived stress; (4) SES; (5) sex; and (6) strain. They used MRA and found that only strain had a significant and large independent association with self-rated health (10% of the variance) and life change a significant but small (2% of the variance) association. When they analysed their correlation matrix, they found that their independent variables were highly intercorrelated. This lack of independence is not cited in any of the other studies and raises serious questions about

analysis of variables correlated with self-rated health.

Lastly, the Markides and Martin (1978) study includes a PATH analysis of self-rated health and other variables which they believe serve to predict it. This study is significant because very little work has been done on the question of determining actually how individuals arrive at their self-rating. They found that self-rated health was a better predictor of life satisfaction than physician ratings but cautioned that self-rated health may be partially reflecting life satisfaction and morale. They found that the strongest determinant of self-rated health was an index of illness experience and argued (like Maddox and others) that older persons form their opinion of their own health on the basis of a realistic appraisal of their health history.

To summarize, these studies found self-rated health to be significantly associated with:

- life satisfaction - 4 studies;
- disability, mobility - 4 studies;
- physician ratings - 3 studies; and
- health index - 2 studies;

and one study each of sensory impairment, recent onset of illness, strain and life change. There also was general consensus that older persons tended to overestimate their health, under-report specific illnesses and conditions and that their self-rated health was stable over time.

### Methodological Considerations

The studies reviewed above present a variety of methodological issues; like all studies they have their own limitations. Rather than criticizing each study individually, it is possible and probably more useful to attempt a generalization about shared errors and problems. What are the validity and reliability issues raised by these studies?

The studies share common weaknesses in their statistical analyses. Where level of significance is reported it usually entails application of the weak chi square test. Only one study actually analyses multi-collinearity despite the fact that the extent of independent variable interdependence is of considerable relevance. The data are possibly masked or altered by the forced dichotomization of ratings in good-poor categories. This would be especially troublesome in cases where the original data fell into an odd number of categories.

Few of the studies use random samples. It is difficult to assess the impact on results of not randomizing. This may be a problem if as Larson (1978) argues, different populations have very different conceptualizations of the notion of health. There is no evidence in the studies reviewed that demonstrates the superiority of using the Cantril ladder approach to the global self-rating. It is also unclear if standardizing to population or using self-

anchoring measures are necessary for validity.

The validity question is, of course, a serious one. There is common agreement that global self-rated health measures are valid measures of perceived health--but isn't that a tautology? What does perceived health measure? The theoretically broad notion of health requires investigators to pay more attention to the actual content of the perception. Suchman's claim of validity for the global measure is not suspect: what is, is the level of theoretical development which accounts for continued debate over whether self-rated health is just another measure of morale. Those investigators who use the index as the "objective" clinical rating for correlation with the "subjective" self-rating are, in my mind, in error. There is no evidence that the index ratings are "better" descriptors of health status or that they associate more closely with physician's ratings. Only one investigator mentions the problem of response bias in eliciting self-rated health (Larson, 1978) but clearly, the position these questions hold within a larger survey are critical to validity. I could easily imagine the self-rating being lowered by coming after, say, the Lawton morale instrument which focuses so heavily on negatives.

As for reliability, three investigators report stability of self-rated health but it is unclear if the ratings are being examined and compared case by case over time or by group.

This is critical. None of the studies reported checked test/re-test reliability on any measures. This seems especially important in the case of the use of indices designed specially for a specific survey. A critical issue in reliability concerns the physician's ratings. Is the same physician doing all of the ratings in a study and if not, is there prior agreement on the specifics of the history-taking and examination? This issue was not mentioned in any of the studies.

### Conclusions

Since the Suchman study, the weight of the evidence appears to favor the validity of global self-rated health measures. They appear to relate appropriately (i.e., as would be expected) to a variety of variables and to correlate significantly and considerably with physician-rated health. The advantages of the health index over the global measure appear less clear unless knowledge of specific illness-type experience is necessary. It would appear at cursory glance that the global measures are earlier to use, take less time, are already in summary form and therefore are superior to an index. Where knowledge of specific conditions is necessary, physician rating appears best. Where the concern is with sick-role identity and service utilization, a simple global self-rating will suffice.



SUMMARY OF FINDINGS OF A SELECTED SET OF STUDIES USING A GLOBAL, SELF-RATING HEALTH MEASURE

YEAR	INVESTIGATOR(S)	N	ASSOCIATION WITH CLINICALLY RATED HEALTH	OTHER SIGNIFICANT ASSOCIATED VARIABLES	OTHER FINDINGS
1958 <sup>1</sup>	Suchman et al.	a <sup>n</sup> male age 65+ 2-year follow-up	<ul style="list-style-type: none"> <li>● good health = 70% congruent</li> <li>● poor health = 48% congruent</li> </ul>	<ul style="list-style-type: none"> <li>● disability/"behavioral" correlates</li> <li>● morale/"attitudinal" correlates</li> </ul>	<ul style="list-style-type: none"> <li>● tendency to health optimism</li> <li>● underreporting of specific conditions</li> <li>● self-rating and clinical rating significantly related on general health</li> </ul>
1960	Apple	60 age 20-50		<ul style="list-style-type: none"> <li>● interference with activities</li> <li>● recent onset</li> </ul>	<ul style="list-style-type: none"> <li>● subject used to high level of care more affected by interference</li> </ul>
1962	Maddox	251 <sup>n</sup> age 60+	<ul style="list-style-type: none"> <li>● good health = 67% congruent</li> <li>● poor health = 60% congruent</li> </ul>	<ul style="list-style-type: none"> <li>● older</li> <li>● white</li> <li>● active</li> <li>● non-manual job</li> </ul>	<ul style="list-style-type: none"> <li>● social and psychological factors have little impact - when they do, it is with more objectively healthy subjects</li> </ul>
1968	Shanas et al.	7,500 age 65+		<ul style="list-style-type: none"> <li>● incapacity</li> <li>● sensory impairment</li> </ul>	<ul style="list-style-type: none"> <li>● health optimism more typical than health pessimism</li> </ul>
1970	Rosencranz and Pihlblad	1,700 age 65+		<ul style="list-style-type: none"> <li>● health index</li> <li>● impaired mobility</li> </ul>	
1972 <sup>1</sup>	Tissue	256 <sup>n</sup> welfare recipients 1-year follow-up		<ul style="list-style-type: none"> <li>● health index</li> </ul>	<ul style="list-style-type: none"> <li>● ratings stable over 1-year follow-up</li> </ul>
1973 <sup>1</sup>	Maddox and Douglas	270 <sup>n</sup> age 60+ high SES 15-year longitudinal	<ul style="list-style-type: none"> <li>● 67% congruent in all ratings</li> <li>● only 5% "extreme" incongruent</li> </ul>		<ul style="list-style-type: none"> <li>● ratings stable over time</li> <li>● tendency for health optimism</li> <li>● self-rating better predictor of future physician rating than converse</li> <li>● self-rating correlates with morale consistently below +.5</li> </ul>
1978	Garrity et al.	314 college students		<ul style="list-style-type: none"> <li>● "strain" = psycho-physiological disability</li> </ul>	
1978	Markides and Martin	522		<ul style="list-style-type: none"> <li>● health index</li> </ul>	

n = non-random

a = varied for different measures

1 = longitudinal

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APPENDIX C

The Survey Instrument

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## THE KENDAL STUDY

## I.

1. How old are you?

9-10

2. Have you ever been married? (no = 1)

(If yes) Are you now married<sup>2</sup>; widowed<sup>3</sup>; separated<sup>4</sup>; divorced<sup>5</sup>?

13

3. If widowed, for how long?

16-17

4. Sex: male = 1; female = 2

20

5. (a) What kind of work did you do most of your life?

\_\_\_\_\_  
(Occupational title or duties)

(b) (For "housewife", ask) What kind of work did your husband do?

(c) What kind of business or company was that?

(d) Was this a large (100,000+); medium (35,000+) or small (6,000+) business? \_\_\_\_\_

Occupational scale score: \_\_\_\_\_

6. What was the highest grade of school you completed:

\_\_\_\_\_  
Educational scale score: \_\_\_\_\_

\_\_\_\_\_ x 7 =  
(occupation)

\_\_\_\_\_ x 4 =  
(education)

numerical score  
23-24

(Class I = 11 - 17; II = 18 - 31; III = 32-47; IV = 48-63;

V = 64 - 77

27

7. How long have you lived at Kendal? (months)

30-31

8. How long have you lived in Cumberland  
House? (months)

34-35

9. Do you currently live alone?  
(Yes = 1; No = 2)

38

10. Now I would like to ask you about your health.  
How would you rate your overall health at the  
present time? Would you say that it is excellent (1),  
good (2), fair (3), or poor (4)?

41

11. (Observed health score)

44

## II. ANSIE - FORM G

Now, I would like to ask you a series of questions.

Please answer them with a "yes" or "no".

- |   | Yes   | No    |
|---|-------|-------|
| 1. Do you believe that most problems will solve themselves if you just don't fool with them?                        | _____ | _____ |
| 2. Do you believe that you can stop yourself from catching a cold?  | _____ | _____ |
| 3. Are some people just born lucky?   | _____ | _____ |
| 4. Most of the time did you feel that getting good grades meant a great deal to you?                                | _____ | _____ |
| 5. Are you often blamed for things that just aren't your fault?   | _____ | _____ |
| 6. Do you believe that if somebody studies hard enough he or she can pass any subject?                              | _____ | _____ |
| 7. Do you feel that most of the time it doesn't pay to try hard because things never turn out right anyway?         | _____ | _____ |
| 8. Do you feel that if things start out well in the morning that it's going to be a good day no matter what you do? | _____ | _____ |
| 9. Do you feel that most of the time children listen to what their parents have to say?                             | _____ | _____ |
| 10. Do you believe that wishing can make good things happen?  | _____ | _____ |
| 11. Most of the time do you find it hard to change a friend's (mind) opinion?                                       | _____ | _____ |

## II. (Continued)

Yes No

- |   | Yes   | No    |
|---|-------|-------|
| 12. Do you think that cheering more than luck helps a team to win?  | _____ | _____ |
| 13. Did you feel that it was nearly impossible to change your parent's mind about anything?                       | _____ | _____ |
| 14. Do you believe that parents should allow children to make most of their own decisions?                        | _____ | _____ |
| 15. Do you feel that when you do something wrong there's very little you can do to make it right?                 | _____ | _____ |
| 16. Do you believe that most people are just born good at sports?   | _____ | _____ |
| 17. Are most of the other people your age and sex stronger than you are?  | _____ | _____ |
| 18. Do you feel that one of the best ways to handle most problems is just not to think about them?                | _____ | _____ |
| 19. Do you feel that you have a lot of choice in deciding whom your friends are?                                  | _____ | _____ |
| 20. If you find a four leaf clover, do you believe that it might bring you good luck?                             | _____ | _____ |
| 21. Did you often feel that whether or not you did your homework had much to do with what kind of grades you got? | _____ | _____ |
| 22. Do you feel that when a person your age is angry at you, there's little you can do to stop him or her?        | _____ | _____ |
| 23. Have you ever had a good luck charm?  | _____ | _____ |



## II. (Continued)

	Yes	No
24. Do you believe that whether or not people like you depends on how you act?	_____	_____
25. Do your children usually help you if you ask them to?	_____	_____
26. Have you felt that when people were angry with you it was usually for no reason at all?	_____	_____
27. Most of the time, do you feel that you can change what might happen tomorrow by what you do today?	_____	_____
28. Do you believe that when bad things are going to happen they just are going to happen no matter what you try to do to stop them?	_____	_____
29. Do you think that people can get their own way if they just keep trying?	_____	_____
30. Do you feel that when good things happen they happen because of hard work?	_____	_____
31. Do you feel that when somebody your age wants to be your enemy there's little you can do to change matters?	_____	_____
32. Do you feel that it's easy to get friends to do what you want them to do?	_____	_____
33. Do you feel that when someone doesn't like you there's little you can do about it?	_____	_____
34. Did you usually feel that it was almost useless to try in school because most other children were just plain smarter than you are?	_____	_____

## II. (Continued)

- |   | Yes   | No    |
|---|-------|-------|
| 35. Are you the kind of person who believes that planning ahead makes things turn out better?       | _____ | _____ |
| 36. Most of the time, do you feel that you have little to say about what your family decides to do? | _____ | _____ |
| 37. Do you think it's better to be smart than to be lucky?  | _____ | _____ |

ANSIE Raw Score

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47

## III. LSIA

And now, I would like to ask you a final set of questions. Please tell me if you agree or disagree with each statement I read:

Agree

Disagree

1. As I grow older, things seem better than I thought they would be.
2. I have gotten more of the breaks in life than most of the people I know.
3. This is the dreariest time of my life.
4. I am just as happy as when I was younger.
5. My life could be happier than it is now.
6. These are the best years of my life.
7. Most of the things I do are boring or monotonous.
8. I expect some interesting and pleasant things to happen to me in the future.
9. The things I do are as interesting to me as they ever were.
10. I feel old and somewhat tired.
11. As I look back on my life, I am fairly well satisfied.
12. I would not change my past life even if I could.
13. Compared to other people my age, I make a good appearance.
14. I have made plans for things I'll be doing a month or a year from now.
15. When I think back over my life I didn't get most of the important things I wanted.

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## III. (Continued)

	Agree	Disagree
16. Compared to other people, I get down in the dumps too often.	_____	_____
17. I've gotten pretty much what I expected out of life.	_____	_____
18. In spite of what people say, the lot of the average man is getting worse, not better.	_____	_____

LSIA Raw Score

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 50

APPENDIX D

Communications to Kendal Residents  
and Study Participants

# Kendal Crosslands

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BOX 100, KENNETT SQUARE, PA 19348 TELEPHONE (215) 388-7001

LLOYD W. LEWIS  
Executive Director

July 23, 1979

To Kendal Residents:

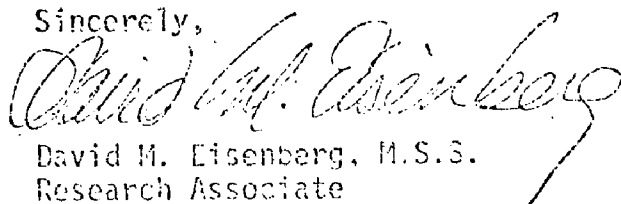
You may remember that in early Spring Kendal was awarded funds by a private foundation to do a study on residents' ideas about their own well-being. To our knowledge, this is the first study initiated by a life care community and it is expected to be of significant interest to residents and to all others who create and maintain such communities.

I am writing to you today to let you know that the study is progressing and that it will soon be time to interview residents. All participants will be randomly selected; interviews will be held with them privately in their own apartments at a convenient time. The interview will be about an hour in length and will consist of straightforward questions.

Absolute confidentiality will be maintained and no participant will be identified in the study results. If your name is selected in the "random list", you will receive an invitation to participate within the next two weeks. Any resident who initially agrees to participate will have the option of discontinuing participation at any time.

I would like to thank you in advance for your interest and support.

Sincerely,



David M. Eisenberg, M.S.S.  
Research Associate

DME:em

# Kendal Crosslands

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BOX 100, KENNETT SQUARE, PA 19348 TELEPHONE (215) 388-7001

August 6, 1979

LLOYD W LEWIS  
Executive Director

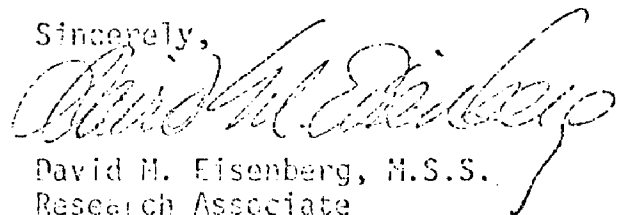
I would like to invite you to participate in the "Kendal Study". To our knowledge, this study is the first of its kind in that it has been initiated and planned by the same community as is being studied. The Kendal Study will focus on residents' own attitudes about their well-being in an attempt to learn more about enhancing the quality of life for older people here at Kendal and elsewhere.

Your participation involves simply a one hour interview with me in your apartment at a time convenient to you. I will ask you a series of straightforward questions; the interview is not a test, nor are there any "right" answers.

Your participation is entirely voluntary; absolute confidentiality will be maintained. Findings will not identify any individual. Participants will have an opportunity to discuss the interview and the study before the writing of the final report.

I think you will find the experience to be a pleasant and interesting one. Priscilla Kissell will phone you shortly to ask if you are willing to participate and to arrange an interview time.

Sincerely,



David M. Eisenberg, M.S.S.  
Research Associate

DME:em

# Kendal — Crosslands

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BOX 100, KENNETT SQUARE, PA 19348 TELEPHONE (215) 388-7001

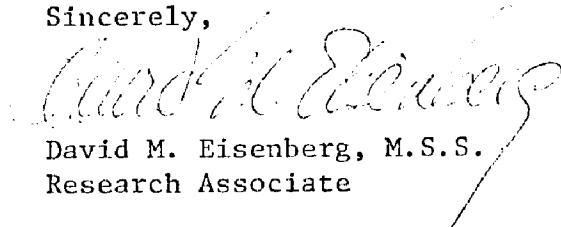
LLOYD W. LEWIS  
Executive Director

Dear

This is just a brief note to express my thanks for your participation in the Kendal Study. I will be contacting you towards the end of the year to invite you to hear about the results of the study.

Best wishes.

Sincerely,



David M. Eisenberg, M.S.S.  
Research Associate

DME:em



APPENDIX E

Zero-order Correlations Between  
All Variables for Both Groups  
of Respondents

Z E R O - O R D E R C O R R E L A T I O N S - C U M B E R L A N D G R O U P

	HEALTH	LSIA	GNSIE	AGEYRS	MARRIED	SINGLE	WIDOWED	DIVORCED	SESCLS	KENMOS	CUMMOS	SEX
HEALTH	1.0000 ( 0) S = .001	-.3247 ( 34) S = .027	.3643 ( 34) S = .014	.1002 ( 34) S = .280	-.0951 ( 34) S = .291	.1048 ( 34) S = .271	-.0946 ( 34) S = .292	.1326 ( 34) S = .220	-.1013 ( 34) S = .278	-.0684 ( 34) S = .346	.2400 ( 34) S = .079	-.3579 ( 34) S = .016
LSIA	-.3247 ( 34) S = .027	1.0000 ( 0) S = .001	-.3817 ( 34) S = .011	.2020 ( 34) S = .119	.1549 ( 34) S = .183	-.1138 ( 34) S = .254	-.0214 ( 34) S = .451	.1320 ( 34) S = .222	-.0305 ( 34) S = .430	-.1743 ( 34) S = .155	.2009 ( 34) S = .120	.2640 ( 34) S = .060
GNSIE	.3643 ( 34) S = .014	-.3817 ( 34) S = .011	1.0000 ( 0) S = .001	-.1821 ( 34) S = .144	-.3008 ( 34) S = .037	.1316 ( 34) S = .222	-.0162 ( 34) S = .463	.1317 ( 34) S = .222	-.1336 ( 34) S = .219	.0156 ( 34) S = .464	.2564 ( 34) S = .066	-.2944 ( 34) S = .041
AGEYRS	.1002 ( 34) S = .280	.2020 ( 34) S = .119	-.1821 ( 34) S = .144	1.0000 ( 0) S = .001	.0359 ( 34) S = .418	.1976 ( 34) S = .124	-.1516 ( 34) S = .189	-.1250 ( 34) S = .234	.2257 ( 34) S = .093	.3486 ( 34) S = .019	.3355 ( 34) S = .023	-.1142 ( 34) S = .254
MARRIED	-.0951 ( 34) S = .291	.1549 ( 34) S = .183	-.3008 ( 34) S = .037	.0359 ( 34) S = .418	1.0000 ( 0) S = .001	-.1296 ( 34) S = .226	-.3656 ( 34) S = .014	-.0410 ( 34) S = .406	-.1252 ( 34) S = .233	.0823 ( 34) S = .317	.0794 ( 34) S = .323	.4937 ( 34) S = .001
SINGLE	.1048 ( 34) S = .271	-.1138 ( 34) S = .254	.1316 ( 34) S = .222	-.1296 ( 34) S = .226	1.0000 ( 0) S = .001	.10000 ( 0) S = .001	-.8058 ( 34) S = .001	-.0904 ( 34) S = .300	.2415 ( 34) S = .078	-.0783 ( 34) S = .325	.2957 ( 34) S = .040	-.2626 ( 34) S = .061
WIDOWED	-.0946 ( 34) S = .292	.10000 ( 0) S = .001	-.8058 ( 34) S = .001	-.1516 ( 34) S = .189	-.3656 ( 34) S = .014	1.0000 ( 0) S = .001	1.0000 ( 0) S = .001	-.2548 ( 34) S = .067	-.1713 ( 34) S = .159	.0528 ( 34) S = .380	-.3645 ( 34) S = .014	.0212 ( 34) S = .451
DIVORCED	.1326 ( 34) S = .220	.1320 ( 34) S = .222	.1317 ( 34) S = .222	-.1250 ( 34) S = .234	-.0410 ( 34) S = .406	1.0000 ( 0) S = .001	-.2548 ( 34) S = .067	1.0000 ( 0) S = .001	.0436 ( 34) S = .400	-.0647 ( 34) S = .354	.1628 ( 34) S = .171	-.0830 ( 34) S = .315
SESCLS	-.1013 ( 34) S = .278	-.0305 ( 34) S = .430	-.1336 ( 34) S = .219	.2257 ( 34) S = .093	-.1252 ( 34) S = .233	.2415 ( 34) S = .078	-.1713 ( 34) S = .159	.0436 ( 34) S = .400	1.0000 ( 0) S = .001	.0964 ( 34) S = .288	.0019 ( 34) S = .496	-.0906 ( 34) S = .300
KENMOS	-.0684 ( 34) S = .346	-.1743 ( 34) S = .155	.0156 ( 34) S = .464	.3486 ( 34) S = .019	-.0823 ( 34) S = .317	-.0783 ( 34) S = .325	.0528 ( 34) S = .380	-.0647 ( 34) S = .354	.0964 ( 34) S = .288	1.0000 ( 0) S = .001	-.2319 ( 34) S = .087	.0693 ( 34) S = .344
CUMMOS	.2400 ( 34) S = .079	.2009 ( 34) S = .120	.2564 ( 34) S = .066	.3355 ( 34) S = .023	.0794 ( 34) S = .323	.2957 ( 34) S = .040	-.3645 ( 34) S = .014	.1628 ( 34) S = .171	.0019 ( 34) S = .496	-.2319 ( 34) S = .087	1.0000 ( 0) S = .001	-.1470 ( 34) S = .196
SEX	-.3579 ( 34) S = .016	.2640 ( 34) S = .060	-.2944 ( 34) S = .041	-.1142 ( 34) S = .254	.4937 ( 34) S = .001	-.2626 ( 34) S = .061	.0212 ( 34) S = .451	-.0830 ( 34) S = .315	-.0906 ( 34) S = .300	.0693 ( 34) S = .344	-.1470 ( 34) S = .196	1.0000 ( 0) S = .001

(COEFFICIENT/(D.F.)/SIGNIFICANCE) (A VALUE OF 99.0000 IS PRINTED IF A COEFFICIENT CANNOT BE COMPUTED)

Z E R O - O R D E R C O R R E L A T I O N S - A P A R T M E N T G R O U P

	HEALTH	LSIA	GMSIE	AGEYRS	MARRIED	SINGLE	WIDOWED	DIVORCED	SESCLS	KENMOS	ALONE	SEX
HEALTH	1.0000 (.0) S=.001	-.3390 (.86) S=.001	.2522 (.86) S=.009	.0747 (.86) S=.245	.0014 (.86) S=.495	-.1320 (.86) S=.110	.0663 (.86) S=.270	.1166 (.86) S=.140	-.0582 (.86) S=.295	.0915 (.86) S=.188	-.0055 (.86) S=.480	.1072 (.86) S=.160
LSIA	-.3390 (.86) S=.001	1.0000 (.0) S=.001	-.2564 (.86) S=.008	-.1839 (.86) S=.043	.1997 (.86) S=.031	.0453 (.86) S=.338	-.2331 (.86) S=.014	-.0350 (.86) S=.373	.0792 (.86) S=.232	-.1339 (.86) S=.107	-.1916 (.86) S=.037	.0210 (.86) S=.423
GMSIE	.2522 (.86) S=.009	-.2564 (.86) S=.008	1.0000 (.0) S=.001	.0737 (.86) S=.247	-.1170 (.86) S=.139	.1199 (.86) S=.133	.0468 (.86) S=.332	-.0706 (.86) S=.257	.0132 (.86) S=.452	-.0078 (.86) S=.471	.1253 (.86) S=.122	.0045 (.86) S=.483
AGEYRS	.0747 (.86) S=.245	.0737 (.86) S=.247	.0737 (.86) S=.247	1.0000 (.0) S=.001	-.0464 (.86) S=.334	.0334 (.86) S=.379	.0177 (.86) S=.435	.0056 (.86) S=.479	.0196 (.86) S=.428	.2556 (.86) S=.008	.0394 (.86) S=.358	.0192 (.86) S=.429
MARRIED	.0014 (.86) S=.495	.1997 (.86) S=.031	-.1170 (.86) S=.139	-.0464 (.86) S=.334	1.0000 (.0) S=.001	-.4319 (.86) S=.001	-.6126 (.86) S=.001	-.1600 (.86) S=.068	-.2542 (.86) S=.008	.0772 (.86) S=.237	-.8841 (.86) S=.001	.4888 (.86) S=.001
SINGLE	-.1320 (.86) S=.110	.1199 (.86) S=.133	.1199 (.86) S=.133	.0334 (.86) S=.379	-.4319 (.86) S=.001	1.0000 (.0) S=.001	-.3647 (.86) S=.001	-.0953 (.86) S=.189	.2074 (.86) S=.026	-.1420 (.86) S=.093	.3283 (.86) S=.001	-.1734 (.86) S=.053
WIDOWED	.0663 (.86) S=.270	.0663 (.86) S=.270	.0663 (.86) S=.270	.0177 (.86) S=.435	-.6126 (.86) S=.001	-.3647 (.86) S=.001	1.0000 (.0) S=.001	-.1351 (.86) S=.103	-.0279 (.86) S=.398	-.0012 (.86) S=.496	.5786 (.86) S=.001	-.3187 (.86) S=.001
DIVORCED	.1166 (.86) S=.140	.1166 (.86) S=.140	.1166 (.86) S=.140	.0056 (.86) S=.479	-.1600 (.86) S=.068	-.0953 (.86) S=.189	1.0000 (.0) S=.001	1.0000 (.0) S=.001	.3033 (.86) S=.002	.1088 (.86) S=.156	.1638 (.86) S=.064	-.1118 (.86) S=.150
SESCLS	-.0582 (.86) S=.295	-.0582 (.86) S=.295	-.0582 (.86) S=.295	.0196 (.86) S=.428	-.2542 (.86) S=.001	.2074 (.86) S=.026	-.0279 (.86) S=.398	.3033 (.86) S=.002	1.0000 (.0) S=.001	.0865 (.86) S=.211	.2045 (.86) S=.028	-.2556 (.86) S=.008
KENMOS	.0915 (.86) S=.188	.0915 (.86) S=.188	.0915 (.86) S=.188	.2556 (.86) S=.008	.0772 (.86) S=.237	-.1420 (.86) S=.093	-.0012 (.86) S=.496	.1088 (.86) S=.156	.0865 (.86) S=.211	1.0000 (.0) S=.001	-.0208 (.86) S=.424	-.0159 (.86) S=.442
ALONE	-.0055 (.86) S=.480	-.0055 (.86) S=.480	-.0055 (.86) S=.480	.0394 (.86) S=.358	-.1170 (.86) S=.139	.1199 (.86) S=.133	.0468 (.86) S=.332	-.0706 (.86) S=.257	.0132 (.86) S=.452	-.0078 (.86) S=.471	.1253 (.86) S=.122	.0045 (.86) S=.483
SEX	.1072 (.86) S=.160	.1072 (.86) S=.160	.1072 (.86) S=.160	.0192 (.86) S=.429	-.1170 (.86) S=.139	.1199 (.86) S=.133	.0468 (.86) S=.332	-.0706 (.86) S=.257	.0132 (.86) S=.452	-.0078 (.86) S=.471	.1253 (.86) S=.122	.0045 (.86) S=.483

(COEFFICIENT/(D.F.)/SIGNIFICANCE) (A VALUE OF 99.0000 IS PRINTED IF A COEFFICIENT CANNOT BE COMPUTED)