THE SURVEY OF INCOME AND PROGRAM PARTICIPATION

A RESOURCE-BASED MODEL OF LIVING ARRANGEMENTS AMONG THE UNMARRIED ELDERLY

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TABLE OF CONTENTS

The single-person household has become the modal household category for unmarried men and women over the age of 65. The large numbers living alone have been linked to some of the most significant demographic and social changes of the past several decades, such as the increasing "nuclearization" of the modern family, the premium placed on personal privacy, and the continued divergence of men's and women's expectations of life. As a result of these trends, the elderly person living alone had become a common occurrence by 1980, when over half of all unmarried persons aged 65 and over lived alone, compared to less than 40 percent in 1960 (U.S. Bureau of the Census, 1963; 1983). Yet, despite the overwhelming focus in the literature on this status, not all elderly live alone. A significant share are either unable or unwilling to form single-person households, and are found instead in multi-person households, either as household head or as an added member.

The distribution of elderly individuals across households having different compositional characteristics is reflective of the economic, social, and normative environment within which housing choices are made. For example, an individuals standard of living is strongly conditioned by living arrangements, as income depends partially on household size and composition. Thus, analyzing household composition characteristics can help us evaluate the distribution of resources within the elderly population. Furthermore, eligibility for public transfer programs is based in part on household composition and size. As a result, understanding living arrangements helps scholars and policy makers to better evaluate the economic and social well-being of the elderly (Schwartz et al.. 1984). We also suggest that elderly living arrangements may be viewed as behavioral outcomes through which the dynamics of the normative systems relating to
the aging process-are displayed. Norms regarding appropriate or expected behavior and preferences of older versus younger or male versus female elders. for example, may be reflected in living arrangements.

The purpose of the present paper is to explore the degree to which demographic characteristics, economic resources, and health determine the choice of living arrangements among the unmarried elderly population of the United States. A model is generated and tested, making use of data from the Survey of Income and Program Participation (U.S: Bureau of the Census, 1987). These data are particularly useful for the present project because, unlike many extant data sources. they include information on a wide variety of relevant predictors of household composition for a large cross-section of the population, thereby permitting a more careful consideration of the process leading to an individuals being located in a particular household type.

A Framework for Analyzing Elderly Living Arrangements

The rapid increase in numbers of single-person households among the elderly population is evidence of the degree to which this arrangement is increasingly normative in the United States. However, a sizeable proportion of this population is located in more complex households. Although the entire unmarried population is technically "at risk" of living alone, many choose alternative living arrangements. Despite the plethora of research describing this phenomenon, we

1

have only limited information as to why some elderly individuals choose to live alone while others make a different choice. For example, we know that some level of economic support is required to maintain a single-person household, yet the role of income may vary according to other demographic and social characteristics of the individual (<identifying reference>. 1987; Michael et al., 1980). Similarly, we know that those elderly in the poorest health are unlikely to be able to live alone, but we have not determined just what level of health is sufficiently disabling ana under what circumstances. Much of what we do know about elderly households is based on ecological or aggregate data (Michael et al., 1980; Krivo and Mutchler, 1989) or on small and sometimes idiosyncratic samples. Very frequently only subsets of the most theoretically important predictors of living alone can be tested in any given study, due largely to data limitations. Yet, as outlined above, it is essential that the factors associated with choice of living arrangements be more fully understood.

A major assumption underlying this research is that living arrangements at any given point in time reflect a series of choices made by individuals, in light of the options available to them. These choices are based on a number of relevant factors, including both preferences or "tastes" and the ability to act on one's preferences. Burch and Matthews (1987) note that "separate living" has come to be regarded as a "superior good" in developed societies, suggesting an underlying high demand for the associated privacy and independence. Indeed, we know from prior research that a large majority of elderly individuals would choose to maintain independent households if possible (Chevan and Korson, 1972; 1975: Kobrin, 1976; Gordon et al., 1981; Shanas et al., 1968; Soldo, 1981); to a large degree the operational research question thus becomes why some individuals are better able to act on those preferences than others.

To answer this question we must consider the process engaged in by elderly individuals (and their families) when making living arrangement decisions. Based on previous research, it is likely that the first and most critical questions would relate to ability to live alone or otherwise retain household headship. For example, some elderly individuals simply do not have the resources to live alone successfully. Although we can be reasonably certain that among the most important of these resources are included health and income (Christenson and Slesinger, 1986; Gordon et al.,, 1981; Griffith, 1985; Mutchler and Frisbie, 1987; Schwartz, et al, 1984: Soldo et al.. 1984; Thomas and Wister, 1984), prior literature does not offer satisfactory insight on what level or type of income is required, or the limits to poor health before health becomes too severely debilitating for continued independent living status. Prior research has also failed to clearly delineate the circumstances under which headship is maintained or relinquished by the elderly individual living in a multi-person household, despite the importance of this status in symbolic and other terms.

The second question that elderly individuals (and their families) would consider is whether alternative living arrangements are viable. Hypothetically, some alternative to living alone is always possible; however, these alternatives are often avoided if viewed in a sufficiently negative light. For example, if resources do not permit living alone, individuals have two options: either become institutionalized, a condition of last resort for most elderly (Soldo, 1981), which also may

2

be associated with high costs, or merge households with another individual or group. Prior research (see Shanas et al.. 1968; Troll, 1971; Wolf and Soldo. 1988) suggests that typically the ordering of preferences is as follows: (1) living alone as the most preferred living arrangement, (2) living with an adult child, usually a daughter, (3) living with some other family member, (4) living with some non-family member, and (5) institutionalization Individuals with few or no family resources often must choose from the last two. least preferred. alternatives, or somehow maintain single-person households despite difficulties posed by health or affordability.

The decision-making process outlined here suggests that two sets of factors are most critical when considering household composition. The first relates to possibilities for living alone or. at a minimum, retaining household headship, and the most salient issues conditioning these possibilities are considered to be health and income. The second relates to alternatives to living alone and household headship, the most important of which (because they are most preferred) are shaped by extended family relationships. Because we are assuming that most elderly individuals would choose to live alone if possible, and to retain headship even if others are included in the household, all else equal, the ordering of these two questions is appropriate. To fully understand the intricacies underlying choice of living arrangements, it is necessary to consider both sets of factors simultaneously. The emphasis in the present paper is on the first part of this process, which considers the factors shaping the possibilities for living alone or otherwise retaining headship.[1]

Household Composition Among the Elderly

The empirical literature has provided mixed results regarding the importance of economic resources in shaping the living arrangements of elderly people. Concurrent with our argument above, a common thesis is that propensities for living alone are maximized among those most able to afford independent living arrangements. Indeed, upward trends in rates of living alone have been explained largely in terms of rising levels of affordability and ability to indulge a "taste for privacy" (Davis and-van den Oever, 1981; Michael et al., 1980). As noted by Burch and Matthews (1987), the ability to "purchase privacy" has become further diffused institutionally since most adults have access to some form of income, earned or otherwise (see also Duncan and Morgan, 1976). Yet individual-level studies have been somewhat inconclusive. For example, Pampel (1983) finds that income plays a comparatively small role in determining likelihoods of living alone.

Less rigorously analyzed is the role played by source of income. Again, most elderly individuals have at least a minimal source of income--either Social Security benefits or a means-tested substitute (in the case of the elderly, this is most often supplemental security income).

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[1]An additional dimension of the discussion that cannot be addressed using the current data set relates to the resources and characteristics of extended family members. Ages and capacities of adult children to live independently, or economic need among non-elderly relatives, for example, may form a part of to the individual calculus shaping the elderly person's possibilities for living alone.

Since so many of the sources of income available to the elderly population are essentially "fixed"--that is, stable from year to year or at best keyed to the rate of inflation--a large share of income heterogeneity is associated with some elderly having multiple sources of income while others rely on only one or two. For example, those with pension or property income (representing past savings or investments and thereby implying a higher standard of living prior to old age) are among the most well-off, in part because these sources of income are typically received in addition to Social Security receipts. In contrast, those subsisting on Social Security benefits or transfers alone are among the least affluent. Accordingly, we argue that different income sources may have different implications for household behavior.

The second critical resource shaping the possibilities for living arrangements is good health and absence of disability. Health is frequently noted as having importance for elderly living arrangements but seldom systematically considered in practice (however, see Soldo et al., 1984; Wolf and Soldo. 1988). This omission is due in part to the fact that few nationally representative data sets provide good information on health and disability status. For instance, neither decennial Census data nor Current Population Survey data. two of the most widely used sources of data on household composition, provide detailed information on these topics. Yet. available information suggests that health is one of the most critical indicators of an elderly individual's ability to maintain an independent lifestyle (Soldo and Agree, 1988; Soldo and Manton, 1985). To take an extreme example. an elderly individual who cannot cope with daily living without full-time care, may be forced to enter an institution or may combine households with others (usually relatives).[2] We may also expect that such individuals would be unlikely to retain household headship when living with others. However, even elderly individuals in poor health may be able to overcome these problems through help from relatives and friends or with in-home care, provided that economic resources permit this expenditure.

Although our primary concern in the present paper is with the above two resources and their roles in conditioning household decision-making in old age, we are also interested in the alternative living arrangements available to the elderly individual. To assess this issue, we would ideally employ information on availability and location of extended family members. economic and other resources of those members, and the amount and quality of contact between the elderly individual and this potential network. Unfortunately, few if any data sources permit this level of analysis and so this question cannot be adequately addressed. Even in the SIPP data set, which is more exhaustive than most in obtaining information from all members of a household, we can only consider the resources of those household members actually living with the elderly person. not those potentially available for co-residence. However, as a first step toward considering some of the issues involved, we incorporate a measure of marital history that permits us to speculate about

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[2]Institutionalization (usually nursing home confinement) is a very important yet generally involuntary type of living arrangement which many elderly face, especially as they reach the oldest-old age group. This issue deserves extensive analysis but is not within the scope of the present study in part because the social processes determining institutionalization are not voluntary and are quite different from the usually "voluntary" nature of household living arrangements. Future analyses focusing on the process underlying these static results in order to capture some of the most important facets of this relationship.

some of these issues.

As an addendum to these considerations, we note-that several demographic characteristics are important in determining living arrangements among the elderly. Those most commonly considered include age, sex. and less frequently, race. Although these characteristics Imply much about other demographic characteristics and other predictors of household status such as health (e.g., older individuals are more likely to suffer from poor health than younger individuals), their independent contribution to living alone is poorly understood. For example, although it is known that older individuals are more likely than younger individuals to live alone, it is unclear to what degree this relationship holds when important covariates (e.g., health or income) are held constant. We argue that these "demographic" characteristics have important sociological significance, with independent effects on living arrangements. Most importantly. we note insufficient attention directed toward the normatively different position of males and females within the elderly population, as well as the differences between the young-old and old-old segments. For example, if living alone is less normatively acceptable among the oldest old than among their younger counterparts, then propensities for this arrangement among this group may be lower. even in the absence of economic or health constraints. A final goal of this analysis is to consider some of these differences in light of their effects on the decision-making process.

Data and Methods

The data employed in this research are taken from the 1984 Survey of Income and Program Participation (SIPP), Panel 1. Wave Three (U.S. Bureau of the Census, 1987.). The SIPP serves as a primary source of information on the economic and demographic characteristics of the U.S. The survey is designed to be nationally representative of the civilian. noninstitutional-ized population; the first two and one-half year panel was put into the field during October, 1983, and yielded 19,878 sample households. Wave Three interviews were accomplished between May and August, 1984 with each respondent supplying information on the four months prior to interview date. These households are subsampled from previous CPS sampling frames and each of the chosen households are further subsampled into four nationally representative "rotation" groups with each person 15 years of age and over interviewed three times a year. once every four months (see Kasprzyk et al. 1987 and Nelson et al., 1984 for more details);.,

We examine Wave Three because our cross-sectional analysis makes use of the health data available in the Health and Disability Topical Module included in the third wave of interviewing. In addition, we include only those sample persons who were originally sampled in Wave One of the panel and remain in the sample at Wave Three.[3] We further restrict our sub-sample to

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[3]Individuals who enter the household of an original sample person are included in waves 2 through 9 of the full data set, but only as long as they remain in the original sample household. Including persons not in the original sample would therefore artificially increase our number of cases not living alone and suppress our rates of living alone (because any who later did live alone would be excluded from the sample). However, since household status is based here on number of persons in the household, an original sample person living with a later entrant, for example, would be considered as not living alone.

individuals not married at the time of interview, since currently married individuals are not usually "at risk" of living alone.[4] Additional sample constraints by race and age (non-Hispanic blacks and non-Hispanic whites who were 65 years old and older at time of interview, truncated in the data at age 85) leaves a total sample size of 2,546 elderly persons.

Attrition is a potential problem with any panel data. McArthur and Short (1985) have provided a preliminary investigation of this problem as it is manifested in the SIPP data. and we leave it to the reader to examine these findings in detail. However, we note that attrition is no greater a problem here than in other longitudinal data sets, and is more problematic for the younger population (age 15 to 24) than for the older population. Among the original Wave I subsample of white and black non-Hispanic respondents aged.65 and over, approximately 10% were lost through attrition by the Wave 3 interview point. In addition, our results suggest that the demographic characteristics of our Wave 3 subsample compare favorably with a similarly identified group from the 1985 March Current Population Survey (see Appendix A). As a result, we believe that the results obtained from this unique survey can successfully be generalized to the larger population.

The Variables: In this study we are interested in living arrangements experienced by elderly individuals and not household composition per se (see Duncan and Hill, 1985; and Richards et al.. 1987 for related arguments; however. see McMillen and Herriot. 1985, for a counter-argument). Correspondingly, the individual rather than the household is the unit of analysis. All elderly individuals meeting the sample constraints noted above are categorized as either (1) living alone, (2) not living alone but reporting household headship, or (3) not reporting household headship. Since only non-married individuals (e.g., widowed, divorced, separated, and never married) are included in the analysis. a high proportion are in fact living alone and the remainder live with others. primarily relatives.

A complete list of the variables incorporated in this analysis is included in Table 1. As noted above, our primary interest is with resources that condition the elderly person's living arrangements, most importantly health and income. Five sources of income are included in the present analysis. These income sources include (a) earnings, (b) property income, (c) private and public pensions, (d) Social Security, and (el public assistance. (A sixth residual category excluded from the analysis includes alimony. child support. and other payments rarely received by elderly individuals.) These five sources are included in the analysis as a set of continuous predictors.

Although cash income is central to the present analysis, non-cash economic resources are also important in the decision-making process related to choice of living arrangements. Here we focus on non-cash transfers to households in which elderly persons reside. Most Important

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[4]Although those married with spouse present are potentially at risk of living alone at a later time via marital disruption, current marital status plays an overwhelming role in shaping living arrangements. Because we are considering living arrangements at a single point in time, we restrict our analysis to those at risk of living alone at the same time point.

among these resources are included assistance with food costs, via food stamps, and assistance with housing costs, via subsidized or public housing. As both housing and food programs are potentially among the most important resources available to t he poor or near-poor populations. variables indicating receipt of food stamps or housing assistance are included in the analysis.[5]

Health may be assessed in one of two ways. First, one item on the SIPP questionnaire asks the individual to assess his/her health and rate it on a five-point scale, ranging from (1) "excellent" to (5) "poor". This subjective self-report is a potentially valuable indicator of a person's self-identification as a healthy or unhealthy individual,. However, just as some studies indicate that an older person may identify him/herself as in poorer health as a means of justifying early retirement (Hardy and Pavalko, 1986), so may an individual justify co-residence and/or relinquishment of household headship through real, imagined, or exaggerated ailments. We address this possibility through constructing an objective measure of health, utilizing questionnaire items pertaining to needs for assistance with walking, lifting, personal hygiene, and problems with vision. hearing. or speaking. From these items we construct an objective health index labeled "health status," which ranges from 0 (indicating no reported health problems) to eight (indicating need for assistance in the maximum of eight specific areas).. These alternative health measures are further described in a later section of this paper.

**TABLE 1: Variable Definitions for Household Status, Economic Resources,
Health, and Other Characteristics of the Elderly From the Survey
of Income and Program Participation. Wave 3. 1984 Panel**

Variable		Coding	Description
Household Status		0 = Alone	Definition is based on number of
		1 = Head with others	persons in housing unit, and
		2 = Not head	headship of respondent.
Income			
	Earnings	Continuous	Income from salaries, wages, self-employment, or casual employment over prior 4 months
	Property	Continuous	Income from savings, investments, rental property, or other assets over prior 4 months.

**TABLE 1: Variable Definitions for Household Status, Economic Resources,
Health, and Other Characteristics of the Elderly From the Survey
of Income and Program Participation. Wave 3. 1984 Panel
(Continued)**

Variable		Coding	Description
	Pensions	Continuous	Income from private or public pension funds over prior 4 months.
	Social	Continuous	Income from Social.,Security

[5]Variables tapping non-cash transfers are measured at the household level. Because some recipiency and ownership may be contingent on size and composition of household, causality is somewhat blurred with regard to these measure. The potential importance of non-cash transfers warrants their inclusion in the model, although the results should be interpreted with caution.

Security		benefits over prior 4 months.
Public Assistance	Continuous	Income from means-tested sources such as supplemental security income and general relief over prior 4 months.

Non-Cash Transfers

Food Stamps	0 = No recipiency 1 = Recipiency	Based on non-zero recipiency over the previous four months, as reported on the household record
Subsidized Housing	0 = Not subsidized 1 = Subsidized	Based on receipt of subsidization of housing unit, as reported on the household record

Health

Health Status	Ordinal Range: 0-8	Total number of problems reported with communication, mobility, or personal care.
Self-Report	Ordinal Range: 1-5 (Excellent to poor)	Is ...'s health in general excellent. very good, good, fair, or poor?

Marital History

Widowed	0 = No 1 = Yes	Currently widowed.
Divorced/ Separated	0 = No 1 = Yes	Currently divorced or separated
Never Married	0 = No 1 = Yes	Never married

Demographic Characteristics

Age	Continuous Range: 65-85+	Self-reported age at interview
Black	0 = White 1 = Black	Self-reported race, excludes Hispanics
Sex	0 = Male 1 = Female	Self-reported sex

Multinomial logistic regression techniques appropriate for analysis of categorical dependent variables are employed in the present analysis. Estimates from these models are more satisfactory than estimates from a linear probability model (LPM) (see Goldberger, 1964) because estimates from a LPM model violate the OLS assumption of homoskedasticity and mis-specify the true probability function (see also Amemiya, 1985: Hanushek and Jackson, 1977 for more discussion).

Results

As shown in Table 2, the modal household category among the non-married elderly population is living alone. Nearly 70 percent of this population lived in a one-person household in the SIPP sample. The remaining 30 percent are distributed fairly evenly between multi-person households in which the elderly person retains headship, and those in which headship is

relinquished. The first column in this table profiles the total SIPP sample, while the second through fourth columns refer to characteristics of individuals found in particular household types. By comparing these columns we can draw some preliminary conclusions regarding the role of economic and health resources in determining household living arrangements.

The income distributions reflect substantial variability across household types. In each case, the dollar value represents the median income received <u>among those reporting that type</u> of income. while the values in parentheses reflect the percentage reporting positive amounts received. Overall, Social Security is by far the most important source of income for this group, being received by 90 percent or more of the population in each comparison. The least often reported income type is earnings, as would be expected in a population of this age range. In most cases. those living alone report higher median incomes than either of the co-resident groups; exceptions include pensions and public assistance income. Median values for these types of income are higher among those living in co-resident households of which they are not head.[6] Further, heads of household are more likely to report receiving three or more different types of income. Over 38 percent of the living alone group reported three or more income sources,

TABLE 2: Descriptive Statistics by Household Type,
Survey of Income and Program Participation, Wave 3, 1984 Panel*

Variable	Total Sample	Living Alone	Head with Others	Not Head
<u>Household Type</u>	100.0%	69.6%	14.8%	15.6%
Median Incomes [(1)]				
Earnings	$1470	$1521	$1378	$1050
	(8.5%)	(9.1%)	(10.3%)	4.1%)
Property	$ 369	400	300	300
	(68.6%)	(71.8%)	(65.1%)	(58.1%)

TABLE 2: Descriptive Statistics by Household Type,
Survey of Income and Program Participation, Wave 3, 1984 Panel*
(Continued)

Variable	Total Sample	Living Alone	Head with Others	Not Head
Pensions	$ 916	932	796	1076
	(38.5%)	(41.1%)	(35.6%)	(30.2%)

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[6]Statistical comparisons (not reported here) suggest that the median incomes are significantly different across the three household groups, with the exception of earnings and pension income.

9

Social Security	$1628 (92.5%)	2004 (93.0%)	1676 (93.6%)	1456 (89.6%)
Public Assistance	$ 574 (10.1%)	516 8.9%)	606 (10.3%)	616 (15.5%)
Reporting Three or More Sources	34.9%	38.2%	31.0%	24.1%
Non-Cash Transfers (Percent receiving)				
Food Stamps	11.8	12.3	15.9	5.3
Subsidized Rent or Public Housing	9.7	12.8	4.7	1.0**
Health (median)				
Health Status	2.0	1.0	2.0	3.0
Self-Report	3.0	3.0	3.0	4.0
Marital History (%)				
Widowed	75.3	77.4	71.7	69.4
Divorced/ Separated	11.7	12.1	12.7	9.3
Never Married	12.9	10.5	15.5	21.3
Demographic Characteristics				
Age (median)	75.0	75.0	73.0	78.0
Black	0.9	8.7	20.5	11.6
Female	79.0	79.8	76.4	78.0

**TABLE 2: Descriptive Statistics by Household Type,
Survey of Income and Program Participation, Wave 3, 1984 Panel***
(Continued)

Total N (Unweighted)	2546	1745	407	394

* Percentages, means, and medians are based on weighted data.
** Represents fewer than ten cases

[1] Amounts are based on respondents claiming positive income values by type, and refer to a four-month reference period. Percentage of cases reporting any recipiency of this type income in parentheses.

[2] Health status is ranked on a scale from 0 to 8. where zero denotes no disability. Self-reported health is ranked on a scale from 1 to 5, indicating excellent to poor health.

compared to 31 percent of the heads living with others and only 24 percent of the non-heads. We tentatively conclude from these comparisons that the living alone population has at its disposal a greater variety and amount of economic resources. a characteristic which we expect plays a role in facilitating this living arrangement.

The figures for non-cash transfers also suggest variability across household types. Those elders living in households of which they are- not the head are least likely to report receiving food stamps or subsidized rent or public housing. (Recall, however, that the recipiency of these resources is based on household composition and total household income.) Food stamp receipt is most prevalent among those heading a co-resident household, while some form of housing assistance is more prevalent among those living alone. Although overall levels of these forms of assistance are relatively low, these data suggest that these transfers may form important resources to the elderly population.

Both health variables reflect the patterns anticipated based on prior literature (higher values on each measure suggests poorer health). The "objective" composite measure of health suggests that those living alone are the most healthy, while those who are not household head are least healthy. A similar pattern emerges using the subjective "self-report" measure. The observation that this measure does not distinguish well between those living alone and those heads living with others (both reporting median values of 3. indicating "good" health) may be related to this measure's smaller range. For this reason, and because of the advantages associated with a more objective measure of health outlined above, we use the objective health status measure in our multivariate analysis.

While all respondents in our subsample are currently unmarried, marital history is reflective of past patterns of family living arrangements. The data in Table 2 suggest that widowhood is the modal category for individuals in all three household types, although it is more prevalent among those living alone or otherwise retaining headship. In contrast, a surprisingly high rate of being never married (over 21 percent) is observed among those who live in households of which they are not the head.

The remaining sample characteristics--age, race, and sex--are included at the bottom of Table 2. The median age for the sample as a whole is the same as that for the living alone population at 75 years. Those heads who live with others are slightly younger than this, while those who are not heads are somewhat older. Blacks are disproportionately concentrated in multi-person households of which they are head, while females are fairly evenly distributed across household types. Not surprisingly, a sizeable majority of each household type is female, due to

the low sex ratios within this age group.

Results from the multinomial logistic regression are presented in Table 3. For each contrast, the first column includes estimated coefficients representing the changes in the log odds of living alone that are associated with a unit change in each independent variable. The second column for each contrast transforms the significant coefficients into more interpretable estimates of the percent increase or decrease in likelihood associated with a unit change in each independent variable. None of-the substantively meaningful interactions added to the main effects model provided a substantially better fit to the data, and were therefore not included in the final model. The resulting model suggests that the decision-making process surrounding the elderly population's household living arrangements is essentially additive. All models and coefficients were generated using the CATMOD procedure included as part of the SAS package (SAS Institute. Inc., 1985). The third contrast presented (heads with others vs. not head) is mathematically redundant with the first two contrasts, but is presented for comparative purposes. All model testing was performed on data which was weighted and then deflated to approximate original sample size.

The major thesis of this paper is that economic and health resources are important determinants of living arrangements, above and beyond demographic characteristics. The results from this analysis strongly support this proposition. For each household type comparison, income was a significant predictor of living arrangement, although different sources of income were associated with different household statuses. For example, each $100 increment of property and pension income was associated with a two percent increase in likelihoods of living alone versus living in a household headed by someone else, while each $100 increment of public assistance income reduced these likelihoods by 11 percent. Likelihoods of living alone versus being head but living with others are increased with larger pension income, but reduced with greater Social Security income. Finally, the likelihoods of being head but living with others versus living in a household headed by someone else are increased with greater property and Social Security income, but reduced by public assistance income. This suggests that neither public assistance nor current earnings play a major role in facilitating household headship.

12

**TABLE 3: Multinomial Logistic Regression of Household Status on Income.
Health. and Other Characteristics: Survey of Income and Program
Participation, Wave 3, 1984 Panel**

Variable	Living Alone vs. Not Head		Living Alone vs. Head with Others		Head with Others vs. Not Head	
	Logit	Percent	Logit	Percent	Logit	Percent
Income (in 00s)						
Earnings	0.02		0.01		0.02	
Property	0.02*	2%	0.00		0.02*	2%
Pensions	0.02*	2%	0.01*	1%	0.00	
Social Security	0.02*	2%	-0.02*	-2%	0.04*	4%
Public Assistance	-0.10*	-11%	-0.03		-0.07*	- 7%
<u>Non-Cash Transfers</u>						
Food Stamps Receipt	0.74*	110%	-0.07		0.81*	125%
Receipt of Subsidized Rent or Public Housing	1.46*	331%	0.68*	97%	0.78*	118%
<u>Health Status</u>	-0.23*	- 26%	-0.06		-0.17*	- 19%
<u>Marital History</u>						
Widowed (v. never married)	-0.65*	- 92%	-0.35*	42%	-0.30*	- 35%
Divorced/Separated (v. never married)	0.37*	45%	0.21*	23%	0.16	
<u>Demographic Characteristics</u>						
Age	-0.01		0.02*	2%	-0.04*	- 4%
Race- (Black v. white)	-0.16		-0.54*	-72%	0.38*	46%
Sex (Female v. male)	0.09		0.06		0.03	
Intercept	4.28		0.14		4.13	
N of Cases			2543			
L.R.^{2}/df			3819/5064			

*coefficient significant at the .05 level

Rather, those individuals who retain headship either through living alone or with others accomplish this status through past accumulations (i.e., property income) or through a career trajectory which has included more favorable wages and benefits (as reflected in the role played by social security and pension income). All else equal, the relinquishment of headship appears to be associated with inadequate personal economic resources, as reflected by the receipt of public assistance.

In addition to these cash resources, non-cash transfers are also important predictors of household composition. Receipt of food stamps significantly and substantially increases the odds of either living alone or heading a household including others, relative to relinquishing headship. Housing assistance is positive and significant in all three comparisons. suggesting that those who receive housing benefits are more likely to live alone than to not live alone, and more likely to retain headship than not-retain headship. The resulting conclusion that these "in-kind" transfers present a different picture of the relationship between public resources and private household decision-making than that reflected in the above discussion concerning cash resources may be related to the guidelines governing cash and non-cash transfers. Again, food stamp and housing assistance allocation decisions are made based on the characteristics and resources of the entire household, not a single person within that unit. As a result, low cash resources of the elderly individual may prompt relinquishment of headship and doubling up in households; yet at the same time preclude non-cash transfers of the sort described here based on the income and composition of those new, more complex households. We also suggest that in the case of housing, many public housing programs are targeted toward the independent living situation of the elderly and would therefore not be an immediate resource to the elderly person who lived with younger relatives or friends.

The second major resource of concern here is health status. As we expected, health status plays an important role in determining household composition. However, the results in Table 3 suggest that poor health determines <u>headship</u> rather than composition per se. This is reflected by the significant coefficient reducing the odds of living alone versus not being head of household by 26 percent for each increment in health status, and a similar although slightly lower reduction of odds of being head with others versus not head. Apparently poor health in and of itself does not help to distinguish between those who live alone and those who head a multi-person household; rather, it tends to shape household headship.

The coefficients for marital history suggest that, relative to the never married, the widowed population experiences reduced odds of living alone and of household headship in general. For example, the widowed are 92 percent less likely than the never married to live alone versus live in someone else's household and 42 percent less likely to live alone versus serve as head of a multi-person household. In contrast, the divorced and separated group are more likely to live alone than to not live alone, relative to the never married. The patterning of these coefficients suggest that the life course experiences of these individuals, relating to marriage and marital dissolution. continue to play a role in shaping their family and household living arrangements, even among those who currently lack marital partners. Although we cannot

14

determine the reasons for this patterning at present, we suggest that these marital patterns reflect other differences such as childbearing and childrearing histories. Other differences in family life course trajectories should be explored In a future analysis.

The final section of Table 3 includes the coefficients for the demographic characteristics included in this model. Of the three characteristics included here, only one--race--retains a substantial effect when the economic resources, health, and marital history effects are controlled. No significant differences between men and women emerge, and the effect for age is small. although consistent with a move away from heading multi-person households among the oldest old groups. In particular, the likelihood of living alone versus heading a multi-person household increases two percent with each year of age, while the likelihood of heading a co-resident household versus relinquishing headship is reduced by four percent with each year of age. Although slight. these effects suggest that as they age, individuals become more localized In either single-person households on the one hand, or co-resident households headed by someone other than the elderly person, on the other.

The intriguing results for race deserve detailed comment. Although the coefficient for race is not significant in the living alone versus not head comparison. blacks are 72 percent less likely than whites to live alone than to head a multi-person household, and 46 percent more likely than whites to head a co-resident household than relinquish headship altogether. This concentration of blacks in multi-person households of which they are head is consistent with the descriptive results presented in Table 2, but show that this pattern is not due to economic or health resources of the elderly individuals. Rather, we suspect that this patterning may be reflective of the economic resources of the black population at large. in particular those younger relatives likely to be included in top older person's household.

We have speculated before that the generally unfavorable economic resources held by the black population relative to their white counterparts may generate increased economic dependency of younger blacks on their older relatives (see <identifying reference>, 1987). One illustrative scenario along these lines would include. say, an older black woman receiving a steady income of Social Security, supplemented by a small pension or perhaps supplemental security income. Although these receipts may not amount to a large income, she may have more economic stability than her son or daughter who may be struggling with high unemployment, low wages, and unstable working conditions. Even with this limited income, the elderly black woman may serve as an important and stable resource to her younger relatives, and may therefore include others in her household as a result. To explore this scenario more fully would require a consideration of the economic resources of all members of an elderly person's household simultaneously, a task beyond the scope of the present paper.

15

Discussion and Conclusions

Research on living alone in old age has generated a large number of empirical findings but little concrete understanding of.the decision-making process engaged in by individuals as they approach old age and adapt to their changing economic, health, and family circumstances. The model proposed here builds on this earlier literature by assuming a hierarchy of decisions, the most important of which is viability of each competing living arrangement. This viability is considered to be most critically related to affordability (as indicated by both cash and non-cash resources) and health. The second part of the decision-making process is proposed to be an assessment of one's alternative living arrangements. For most people, living with unrelated others or in an institution forms the least attractive alternative--this part of the decision process thus depends largely on number, location, and willingness of other family members. In sum, the decision to live alone versus living with others is a product of both an assessment of the feasibility of living alone and an evaluation of one's alternatives to living alone.

The focus of this paper has been to evaluate the effects of income and health within the first step of this decision-making process. Detailed consideration of both economic resources and health resources is offered, and support for our hypotheses is generated. In particular, income plays an important role in distinguishing between individuals located in different type households. and receipt of non-cash transfers appears to facilitate headship and living alone, as does better health. Our efforts at tapping family resources through considering marital history were - somewhat inconclusive but do prompt some interesting speculations; they suggest that it may be important to consider variables measuring such family context issues as the number of children who could serve as Possible choices in the process (see Wolf and Soldo. 1988, for further support). The overarching conclusions of this analysis are that economic and non-economic resources, as well as health. are important in the choice of living arrangements in old age, but only tell part of the story. Demographic characteristics, particularly age and race, remain important, likely through some combination of the attachment of normative standards of behavior to these characteristics, cultural differences, and the availability and characteristics of extended family members. Future research will have to explore these possibilities in more detail than feasible here.

These results are most consistent with a life-course approach to household composition, household change, and individual decision-making regarding living arrangements. The approach to household composition presented here provides some important clues as to what effects life course events may have on living arrangements in later life. For example. the patterning of income source and household composition suggests that past patterns of work and income generation may retain effects on lifestyle and living arrangements long after retirement. Of the income sources presented here, property and pension income (either private or public) as well as, to a lesser extent, Social Security income, are the most likely to be related to past earnings and work patterns before reaching old age. This result may indicate that past savings behaviors, facilitated by steady and profitable employment of self, spouse, or both. can help "purchase" later household "independence." The negative effects of public assistance income further support this interpretation.

The marital history results may also be explained within a life course framework. Individuals who have been widowed, divorced or separated have by definition <u>not</u> lived alone at some point in their adult lives, yet have experienced a marital status disruption which is associated with a household disruption as well. Never-married individuals obviously have not experienced these same disruptions or changes. The important issues to consider are therefore the range of responses generated by these different modes of disruption, in conjunction with the timing of this response. In contrast to the previously married, the "career single" person may have settled his or her living arrangements well before the approach of old age by electing to live with siblings, other age-peers, or even younger relatives or friends. Insofar as this strategy results in a lower likelihood of household disruption in old age, a speculation that must be assessed in another paper, it may also result in a lower likelihood of living alone than is experienced by the divorced or separated. Among the widowed population. for whom the marital transition was likely less elective and more recent, living alone or as head may be viewed less favorably than among the never married. Household transitions accompanying marital status disruptions may also be contingent on the <u>timing</u> of those events. For example, individuals widowed in middle age may experience different likelihoods of living alone than those widowed in old age. Without looking at the decision-making process within a life-course framework, and explicitly considering <u>changes</u> in living arrangements rather than cross-sectional snapshots at the results of those changes, we cannot fully explore these possibilities. These serve as important questions for future research.

Finally, more research is needed on the <u>joint</u> decision-making process leading to extended or complex households. Individuals who choose to live with others are making that decision based not only on their own characteristics. resources. and constraints. but also on the characteristics of potential "target" households. For example, even the minimal economic resources of an elderly relative. such as Social Security or supplementary security income, may be sufficient to attract additional members to an elderly person's household--an argument we offer to help explain the patterning of the race effect, but cannot fully explore here. in short, to fully understand the complexities of household decision-making, we must consider not only the characteristics that may '.push" an elderly individual out of his/her own household, but also those characteristics that may "pull" his/her household and that of others together.

These are complex questions but represent important clarifications of the issues dominating the literature thus far. Without understanding the dynamics underlying this decision-making process, we cannot fully assess the critical problems facing an aging population, involving economic viability, dependency, and family relationships. The Survey of Income and Program Participation, by permitting a glimpse at the lives of individuals within their household contexts, provides a unique opportunity to start to answer some of these questions. Further research exploiting the longitudinal dimensions of this data set will inform these issues even mo-re extensively.

APPENDIX A: Comparison of SIPP and CPS Marginal Distributions[1]

Survey of income and Program

	Current Population Survey (March 1985)	Participation (January-July, 1984)
Household Status (%)		
Living Alone	66.8	69.6
Head with Others	15.8	14.8
Not Head	17.4	15.6
Median Income [2]		
Earnings	$3945	$4410
(%)	(11.6)	(8.5)
Property	$1656	$1107
(%)	(61.3)	(68.6)
Pensions	$2882	$2748
(%)	(27.8)	(38.5)
Social Security	$4886	$4884
(%)	(91.5)	(92.5)
Public Assistance	$1524	$1722
(%)	(11.2)	(10.1)
Subsidized Rent or Public Housing (%)	8.5	9.7
Widowed (%)	76.4	75.3
Divorced/ Separated (%)	12.4	11.7
Never Married (%)	11.2	12.9
Age (median)	75.0	75.0

APPENDIX A: Comparison of SIPP and CPS Marginal Distributions[1]
(Continued)

	Current Population Survey (March 1985)	Survey of income and Program Participation (January-July, 1984)
Black	11.6	10.9
Female	78.3	79.0

[1] All statistics based on weighted data.

[2] The Current Population Survey reports income by type for the previous year. The Survey of Income and Program Participation reports income by type for the previous four month period. For comparative purposes, the SIPP income figures are multiplied by three to yield approximations of annual income by source. Medians are based on those reporting one dollar or more from the given income source. Percent reporting any positive dollar amount is included in parentheses.

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