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At Risk on the Cusp of Old Age: Living Arrangements and Functional Status Among Black, White and Hispanic Adults

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Abstract

Objectives.—We examine the relationship between living arrangements and multiple measures of physical, cognitive, and emotional functioning in late midlife.

Methods.—Using cross-sectional data from the Health and Retirement Study, we first assess the bivariate relationship between living arrangements and functioning; we then take into account demographic characteristics and measures of household resources and demands.

Results.—We find evidence of differential functioning among individuals in various living arrangements. Married couples living alone or with children show the highest levels of functioning, whereas single adults living in complex households show the lowest levels. Functional deficits for those in complex households are reduced but not eliminated when we take demographic characteristics and household resources and demands into account. We find few differences by gender and race/ethnicity in the relationship between living arrangements and functioning.

Discussion.—We show a pattern of poorer functioning among those in arguably the most demanding and least supportive, household environments. This points to a vulnerable and risk-filled transition from middle to old age for these persons. Because Blacks and Hispanics show lower levels of functioning than Whites *and* are more likely to live in complex households, they may be particularly disadvantaged.

IN middle through early older ages, people live in diverse family structures (Siegel, 1993). A large proportion of adults in their 50s and 60s are “empty nesters,” living only with their spouses. Others live with their children—some with their spouses and children, some with their children only, and some in complex households including their spouses, children, and other relatives. A sizeable minority of persons in this age group lives alone; a smaller minority lives with a cohabiting partner. Finally, a modest but significant number live without spouse or children in complex households. As in other stages of the life course, these patterns differ by race and ethnicity. Single-parent families and multigenerational households are both more common among older Blacks and Hispanics than among older Whites (Himes, Hogan, & Eggebeen, 1996).

The various household structures make very different demands on the adults in them and offer very different levels and types of resources. These differences may have implications for the well-being of adults at the threshold of old age. Although most middle-aged adults remain healthy and continue to function at high levels, in late middle age some people begin to experience functional limitations associated with aging (Jette, 1996). Impaired functioning among those living independently—or those on whom others are dependent—points to an increased risk of transition to disability and suggests a potential unmet need for support.

In this article, we consider the household as a specific and important context in which functional limitations may create problems for older adults. Using the Health and Retirement Study, we examine the cross-sectional relationship between household structure and levels of physical, emotional, and cognitive functioning for a group of adults poised to become young-old.

Background

Recent conceptualizations of the disablement process have defined functional capacity as an individual's inherent capability to perform fundamental physical, emotional, or mental actions (Verbrugge & Jette, 1994; World Health Organization, 1997). The notion of functional capacity is intended to separate generic, situation-free *actions*, such as walking, lifting heavy objects, climbing stairs, normal affect, and short-term memory from more complex, situation-dependent *activities*, such as household maintenance, cooking, or bathing (Verbrugge & Jette, 1994).

Functional limitations—restrictions in performing such fundamental actions—constitute a key step in the disablement process. In this perspective, disability reflects “the expression of a functional limitation in a social context—the gap between a person's capabilities and the demands of the environment” (Pope & Tarlov, 1991, p.81). This view is similar to notion of “competence” or physical, mental, and emotional capabilities of individuals, which combines with “environmental press” to affect behavior. Other conceptions have also highlighted the importance of the social and built environments in shaping the aging experience (Golant, 1984; Moos, 1996; Regnier & Pynoos, 1987).

Each of these frameworks suggests that the development of problems with age, especially disability, is critically dependent upon the relationship between an individual's functional status and his or her environment. Aging individuals live and act in many overlapping environments. Of these, the household presents the environment that a person must negotiate on a daily basis to fulfill basic needs. By *household*, we refer both to household composition—the number and identity of persons in the household—and to the physical features of the dwelling (Burch & Matthews, 1987).

The centrality of the household follows from a number of its features. First, the household is the repository of critical social roles—not just self-care and household maintenance, but also roles such as spouse, parent, and grand parent (Verbrugge & Jette, 1994). Second, the presence and types of others in the household not only determines the roles a person expects and is expected to fill, but they also determine the particular task demands associated with a role and the potential for change in these obligations in the face of functional limitations. The tasks embodied in social roles make physical, cognitive, and emotional demands on role incumbents; however, others in the household may constitute a resource, taking over tasks that a functionally impaired individual is not able to do. Third, household others form the principal web of interactions for the aging person. The attitudes and motivations of the person and the others surrounding him or her shape the individual's response to functional limitations (Nagi, 1965). Finally, quite apart from the inhabitants of the household, the characteristics of the dwelling shape the residential environment of the aging person (Golant, 1992; Lawton, 1990). As often discussed, the size of the dwelling, whether it has stairs, and the extent to which it is suited for special needs define the demands that residents face in accomplishing day-to-day tasks (Czaja, Weber, & Nair, 1993; Satariano, 1997).

Each household type contains a distinct configuration of demands and resources. For example, being married brings the demands of the spousal role, but a member of a married couple may rely on a spouse to fill in gaps left by functional limitations. The particular closeness of marital relationships may make the adjustment especially successful. In contrast, although persons living alone have no demands placed on them by others, they have no one to compensate for

any functional limitations. The person living alone must fulfill all of the requirements of independent living and lacks the instrumental and emotional support from others that might mitigate a functional limitation.

A more complex case is presented by multigenerational households. Coresidence with children, grandchildren, or others may be a response to economic hardship or may reflect cultural traditions that emphasize kin solidarity and intergenerational ties (Himes et al., 1996). Recent research suggests that intergenerational households are most often based on the needs of the younger generations (Aquilino, 1990; Ward, Logan, & Spitze, 1992). Thus although these households are often expected to be uniquely supportive, they may actually present special stresses and challenges to senior members with functional limitations. The importance of extended household structures among minority individuals, especially those living in poverty, suggests that this is a critical issue (Bengtson, Rosenthal, & Burton, 1996).

Research Questions

Our aim is to examine the cross-sectional relationship between living arrangements and functional limitations in a relatively youthful sample to assess the relevance of the household as a context for aging. We address four questions:

First, do adults living in different types of households differ in levels of physical, cognitive, and emotional functioning? Adults in their 50s and 60s live in a variety of households. Although most are healthy, some show moderate to substantial deficits in functioning on some dimensions. Do those in the least supportive and/or most demanding types of households show higher levels of functioning than those in other households? How do known influences of household composition on health translate into differences in functional status by living arrangement?

Second, to what extent are any deficits in functioning among middle-aged adults in certain living arrangements accounted for by their other characteristics? The likelihood of both functional limitations and widowhood increase with age (U.S. Bureau of the Census, 1996). Older men are substantially less likely than older women to live alone and show lower prevalence of limitations (Siegel, 1993). Blacks are more likely than Whites to be single-adult heads of families and are more likely to have functional limitations (Schoenbaum & Waidman, 1997; U.S. Bureau of the Census, 1996). We compare the association between living arrangements and functioning before and after taking into account these demographic characteristics.

Third, to what extent is the relationship between living arrangements and functioning attenuated or exacerbated when we consider the resources available to the household and the demands made upon its members? Certain characteristics of individuals represent the resources that they can use to ameliorate the impact of functional limitations. Formal schooling has been shown to have strong, persistent, and positive effects on health and functioning (Ross & Wu, 1995). Income allows an individual to purchase equipment, services, and home alterations in the face of deficits in functioning (Smith, 1997). The physical characteristics of the dwelling may assist or further challenge a functionally impaired person (Czaja et al., 1993; Lawton, 1990; Pynoos & Golant, 1996).

Fourth, do differences in resources and demands exacerbate or ameliorate racial and ethnic differentials in living arrangements and functioning? Blacks function at lower levels, on average, than Whites (Schoenbaum & Waidman, 1997) and are also more likely to live in complex and demanding households (U.S. Bureau of the Census, 1996). At the same time, Blacks have lower household incomes (Smith, 1997) and lower levels of education than Whites (U.S. Bureau of the Census, 1994). Hispanic older adults are substantially more likely than

others to live with relatives (Burr & Mutchler, 1993) and to live in households with more people (U.S. Bureau of the Census, 1996). They also have lower average levels of education and income than White older adults (U.S. Bureau of the Census, 1994). We assess whether these racial and ethnic differences multiply to increase the potential impact of functional limitations.

Methods

Data

Data for this analysis are drawn from Wave 1 of the Health and Retirement Study (HRS), a longitudinal survey of a nationally representative sample of the 1931–1941 birth cohorts. These cohorts were aged 51–61 in 1992, so the initial interviews for the HRS are centered in the retirement period, years of transitions in labor supply, family structure, and health. The analysis sample is comprised of White, Black, and Hispanic age-eligible respondents for whom information on family structure and household finances was available ($N=9,424$).

Measures of Functioning

We report results for multiple measures of functioning, selected to represent the individual's situation-free capacity in three domains: physical, cognitive, and emotional. In constructing the measures, we followed Wallace and Herzog (1995). Definitions and distributions of these variables are summarized in Table 1. All measures are coded so that higher values indicate better functioning.

Physical functioning.—We use two measures of physical functioning. The first, Self-Rated Health, is designed to capture respondents' subjective assessments of their own medical and functional status. Respondents were asked to rate their health on a 5-point scale from poor to excellent. Although we use Self-Rated Health as a situation-free measure of physical capacity, it should be kept in mind that respondents may take into account the demands and supports of their environment when assessing their status. Second, the Mobility Index is calculated by summing responses to five items assessing difficulty with specific forms of ambulation, such as walking a block and climbing a flight of stairs. This measure directly assesses the individual's capacity for physical mobility. If valid, our measures of physical functioning must relate to other health measures in theoretically meaningful ways. Wallace and Herzog (1995) show significant associations between Self-Rated Health and the Mobility Index and strong associations between the Mobility Index and the presence of eight key diseases. We calculated an alpha coefficient for the Mobility Index of .78, suggesting the scale is internally consistent

Missing values on the Mobility Index are due primarily to answers that people “don't do” one or two components—walk several blocks and climb several sets of stairs. Analyses of these cases suggests that people do not perform these actions because they are unable to do them, imparting a conservative bias to our analysis by excluding persons with the most limitations.

Cognitive functioning.—The HRS includes three tests of cognitive functioning; we use all three. The Immediate Free Recall Test assesses ability to acquire new information and involves recalling 20 nouns read by the interviewer. The score is simply the number of words recalled. The Delayed Free Recall Test assesses ability to remember these nouns after several intervening survey questions. Again, the scores range from 0 to 20. The Similarities Subtest, which taps abstract reasoning, is an abbreviated version of the Similarities Subtest of the Wechsler Adult Intelligence Scale-Revised. Seven pairs of words were presented to the respondent with instructions to describe how the words in each pair are alike. The resulting scores range from 0 to 14. As expected, immediate and delayed recall are strongly correlated. All three measures are positively associated with respondents' reports of ability to think quickly and difficulty remembering.

Approximately 8% of cases have no information for Immediate and Delayed Recall, and 11% have no Similarities Score. The missing information is almost completely due to refusals and essentially falls into two groups: respondents who are missing on all three measures and respondents who are missing just the Similarities Score. Those missing all three measures are likely to be married men living with children or others; those missing only the Similarities Score are more likely to be Black, Hispanic, and of lower education.

Emotional functioning—The HRS includes a short version of the Center for Epidemiological Studies Depression Scale, which has been used extensively for respondents across a range of ages. For each item on the scale, respondents answered in a range of 1 to 4; the summary score is the average of the 11 items. We also use Self-Rated Emotional Health, scored on a 5-point scale ranging from poor to excellent. Like Self-Rated Health, these measures may reflect environmental influences so they may be less pure measures of functional status: The Depression Scale shows an alpha coefficient of .84, indicating high internal consistency. Associations with Self-Rated Emotional Health and with presence of “emotional, nervous, or psychiatric problems” are substantial, supporting the concurrent validity of both the Depression Scale and Self-Rated Emotional Health (Wallace & Herzog, 1995).

Measures of Living Arrangements

We distinguish six living arrangements: (a) married persons living with their spouses only; (b) married persons living with their spouses and children only; (c) married persons living with their spouses and others; (d) unmarried persons living alone; (e) unmarried persons living with children only; and (f) unmarried persons living with others. We distinguished these arrangements because we believe their incumbents face qualitatively different demands and resources. The distribution of our respondents across living arrangements is shown in Table 1.

The category “unmarried” refers to current status and includes all types of non-marriage—these respondents are separated, widowed, divorced, or never married. Due to the rarity of cohabitation in these cohorts, we did not have enough cohabiting couples for separate analysis; the 240 cohabiting respondents are treated as married. Married couples or singles who are living with others may also be living with children; we constructed our measures to distinguish households in which the relationships were nuclear from those with relationships that are more complex. The vast majority of the “others” in these complicated households are lineal relatives who are one more generation removed (e.g., the parents or grandchildren of the HRS respondent). The category “single with others” includes a substantial proportion of persons who are living in someone else’s household. In the other categories nearly all households are headed by the HRS respondent or his or her spouse.

Measures of Covariates

Demographic characteristics.—Because functioning on some dimensions declines with age (Siegel, 1993), we include a measure of age within the 51–62-years-old age range included in the HRS. We also include the gender of the respondent, because men and women tend to differ on functioning across dimensions (Siegel, 1993). Finally, we include indicators of race and ethnicity to capture rather substantial group differences in health (Schoenbaum & Waidman, 1997). The distributions of these and all other covariates are shown in Table 1.

Household resources.—Both education and household income act as resources that can be used to offset declines in functioning, by allowing one to alter the environment or adjust to difficulties (Ross & Wu, 1995). Home ownership reflects economic assets in addition to household income (Smith, 1997). Family and friends in the neighborhood, in addition to those in the household, can act as sources of help and support (Logan & Spitze, 1996). We also

include a measure of employment, which brings both resources and demands, as does the number of the respondent's children.

Household demands.—We include several characteristics of the dwelling to represent the demands that the residence places on the individual (Golant, 1992; Newman & Struyk, 1990). The first measure indicates that the respondent did not live in a house, but in an apartment, mobile home, or other structure. The second variable is a crude indicator of the number of flights of stairs the respondent might have to climb. For respondents living in houses, this measure simply refers to the number of stories in the house, not counting the basement. For those in apartments, the measure indicated what floor the apartment was on. Third, we include a dummy variable indicating whether residence had six or more rooms. Because these three variables came from interviewer observation, they included a fair amount of missing data, which we had no reason to believe was not random. We assigned values for the missing cases at random according to the distribution of values among nonmissing cases and included variables indicating these cases in the equation. To test the implications of this procedure, we also ran models excluding cases missing this information and found that our overall conclusions remained unchanged. The coefficients for characteristics of the dwelling either strengthened significantly or remained the same, suggesting that our procedure had a conservative bias.

The final residential variable reflects the ease with which the respondent reported that his or her dwelling could be altered to accommodate any limitations. Modifying the home is one strategy functionally impaired individuals may use in order to “age in place” (Pynoos & Golant, 1996). We created a dummy variable showing whether the respondent thought his or her house was very easy to alter or had already been altered.

Results

Tables 2,3, and 4 present the results of three ordinary least-squares regressions for each of our seven measures of functioning. For each measure, the first column (Model 1) presents a model that contains only measures of living arrangements. The model in the second column (Model 2) adds key demographic variables—age, sex, race, and Hispanic ethnicity. The final model (Model 3) adds an extensive series of measures of there-sources available to the individual and the demands made upon him or her. These three models correspond to our first three research questions; our fourth question, relating to racial and ethnic differences, is addressed by both Models 2 and 3.

Living Arrangements and Functioning

The basic models (Model 1) of all the measures of functioning tell a consistent story: married couples living alone or only with children show the highest levels of functioning on all dimensions. Couples living alone are the reference category in our analyses; the significant coefficients for the dummy variables representing alternative living arrangements are nearly all negative, indicating that individuals in these other arrangements have poorer functioning than individuals who are members of married couples living alone. However, on all dimensions but one, married couples living only with their children are at least as advantaged as solo couples. In fact, on the Mobility Index, married couples with children appear to function somewhat *better* than solo couples.

The magnitudes of the differences between members of married couples and persons in other arrangements differ by the particular arrangements. Without exception, single adults living with others show the lowest levels of functioning on all measures of all dimensions. Moreover, the differences in functioning between married adults living alone and single adults living with others are generally on the order of a half a point on 5-point scales like Self-Rated Health, and a full point on scales like Immediate and Delayed Recall, which range from 0 to 20. Thus the

deficits in functioning of single adults living with others tend to be substantially larger than those of adults in any other living arrangement.

These groups—married couples living with and without children and single adults living with others—anchor the high and low ends, respectively, of the continuum of functioning across all dimensions. The groups in between—single adults living alone, single parents living with children, and married couples who live with people other than their children—all fall in the middle on functioning, always significantly worse than married couples alone or with children only, and always better than single adults living with others. But within this middle range, relative positions shift across measures and dimensions.

In sum, respondents in what are likely to be the most supportive household structures—married couples with and without children—also show the highest levels of functioning, and those in the potentially least supportive or most demanding household structures—single adults living alone, living with children, or living with others—show the lowest levels of functioning. Recall that most of those in households with others live with their own parents, who would be quite aged, or with grandchildren. In either case, these others are more likely to bring demands than resources.

Adding Demographic Characteristics

Model 2 adds basic demographic characteristics to Model 1. It shows that for all measures of functioning, holding constant basic demographic characteristics reduces the deficits shown by those in unmarried or complex households. For example, in the model of Self-Rated Health, the coefficient for “couple with others” increases from $-.293$ to $-.154$ and the coefficient for “single with others” falls from $-.596$ to $-.384$ with the addition of demographic characteristics. Clearly, some of the lower average levels of functioning among single adults living alone, with children only, or with others stem from age, gender, race, or ethnicity. However, in almost all cases, the coefficients that were significant in the basic model remain statistically significant with the addition of demographic characteristics, and we continue to see significantly lower levels of functioning for persons in these households compared to members of married couples who live alone. The two exceptions both appear for single adults living with children: taking account of demographic characteristics eliminates the previous functional deficits for persons in this arrangement on the Mobility Index and the Similarities Test Score.

Model 2 also highlights the large differentials in functioning across racial and ethnic groups. The coefficients for “Black” and “Hispanic” are quite large for all measures of functioning, often the largest or among the largest in the model. Thus, consistent with previous research, we find that Blacks and Hispanics are disadvantaged with respect to physical, cognitive, and emotional functioning. The strongest effects of race and ethnicity appear for the three measures of cognitive functioning and the smallest for the two measures of emotional functioning.

Adding Household Resources and Demands

In Model 3, we add measures of household resources and demands to Model 2 to assess whether differential functioning by living arrangement merely reflects these characteristics. The model shows somewhat smaller coefficients for living arrangements than the previous models. But in virtually all cases, the pattern observed in Model 1 remains: those living in unmarried or complex households show deficits in functioning compared with members of married couples living alone or with children only. The exceptions include “couple with others” in the model of Similarities Score, and “single alone” in the model of Immediate Recall, both of which are no longer significantly different from members of married couples living alone. In several cases insignificant differences become significant in the more complex model, including “couple

with children” for both measures of emotional health, and Immediate Recall and “single with children” for the Mobility Index and Similarities Test Score.

However, in this final model, we no longer observe that single persons living with others always have the poorest functioning. Although they are often the most disadvantaged, on some measures single persons in other arrangements or couples in complex arrangements are the most functionally limited. Thus the pattern has shifted somewhat, to a distinction between members of married couples with and without children and all others.

It is also evident from Model 3 that respondents with the most personal resources *also* tend to show the highest levels of functioning. For instance, consistent with previous research, higher education and greater income are associated with better functioning. Respondents who do not own their residences show significantly lower functioning on all measures, net of household income. Well-educated and high-income individuals are the most able to compensate for reduced functioning and thus avoid experiencing disability, for example, by purchasing services or by altering the demands of their environment. Respondents who own their own homes both have larger assets and are more likely to be able to alter their environments. Current employment has a strong positive association with functioning on all measures but one (Similarities Test Score), probably because low functioning reduces the chances of employment.

In contrast to the importance of these personal resources, neighborhood resources in the form of either friends or family fail to show any relationship with functioning in slightly more than half the models. Where significant effects appear, respondents with friends in the neighborhood tend to have higher levels of functioning, whereas those with family in the neighborhood tend to have lower levels of functioning.

Turning to the physical demands of the household setting, respondents with relatively demanding settings (i.e., two or more stories and/or relatively large dwellings) tend to show higher levels of functioning, perhaps because those with difficulties have altered their living situations to meet their needs. Alternatively, this association may appear because respondents of higher socioeconomic status have both higher functioning and larger dwellings with more stories.

Finally, Blacks still show significantly lower levels of functioning on the physical and cognitive dimensions, but not on the emotional dimension. Thus the physical and cognitive functional deficits that Blacks experience are not accounted for by any of the characteristics we have included in this model. In contrast, the deficits in functioning that appeared for Hispanics in Model 2 are reduced in the most complete model and sometimes eliminated (for Self-Rated Physical Health and the Depression Index).

Interactions by Gender and Race/Ethnicity

We reestimated Model 3 (results not shown; available from the corresponding author) with interactions between gender and living arrangements to determine whether the association between functioning and household structure differed for men and women. These results suggest that, on balance, men and women in different types of living arrangements show quite similar levels of functioning. We found that of the 35 interactions we examined only 7 were significant; all indicated *higher* functioning for men. Five of the 7 appeared for physical functioning and 2 for cognitive functioning. No other differences by gender appeared.

We also reestimated Model 3 (results not shown) allowing interactions between living arrangements and race/ethnicity and, again, found few differences in the relationship with functioning. Of the 35 interactions we tested for Blacks, only 3 were significant and all appeared

for Immediate Recall. Blacks living in married couple households with children, in married couple households with others, and unmarried Blacks living with others showed lower scores than Whites in similar households.

The relationship between functioning and living arrangements for Hispanics, however, shows some consistent and theoretically interpretable patterns. Hispanic adults living in married couple households with others—most often parents or grandchildren—show higher levels of functioning across four of the seven measures, Self-Rated Health, Mobility Index, Depression Scale, and Self-Rated Emotional Health, than Whites in similar households. These patterns are consistent with arguments that for cultural reasons Hispanics value family closeness and inter-generational coresidence (Himes et al., 1996). We also found that Hispanic adults living alone show worse scores on the Depression Scale and on the Similarities Score, perhaps because this living arrangement is culturally devalued and indicative of greater distress among Hispanics than other groups.

Discussion

In this article, we have presented strong and consistent evidence of differential physical, emotional and cognitive functioning by living arrangement among adults in their 50s and early 60s. Married couples living alone show the highest levels of functioning, with married couples living with children a very close second. Single adults living in complex households show the lowest levels of functioning on all dimensions. Deficits in functioning for persons in unmarried and complex households are reduced but not eliminated when we take demographic characteristics and household resources and demands into account. Clearly, the patterns of functioning and living arrangements that we observe in this cross section are the result of prior processes, including the impact of living arrangements on pathology, impairments and functioning, and perhaps adjustments in household structure to compensate for functional limitations.

These patterns point to vulnerabilities for some adults as they age and experience further declines in functioning. Generally, individuals best equipped to deal with reductions in physical, cognitive, or emotional functioning have access to help from others in the household, adequate resources, and a relatively malleable and/or undemanding environment. However, we found a definite pattern of poorer functioning among respondents who are arguably in the most demanding and least supportive household environments.

In addition, adults who are already functioning at less than optimal levels in late middle age are often disadvantaged in other ways. We see this especially for the Black and Hispanic adults in our sample. Both groups consistently function at lower levels and are more likely to live in unmarried or complex households than Whites. They also tend to have lower household incomes, fewer assets, and lower levels of education than Whites of the same age. Thus, Black and Hispanic older adults are likely to be disadvantaged in their levels of physical, emotional, and cognitive functioning, the demands and supports in their households, and the resources that they can bring to bear on any problems that arise. From this perspective, it is misleading to say that, for example, Black older adults function at only slightly lower levels than Whites, once we take into account their education, income, family structure, and other factors. In fact, Black, and to a lesser extent, Hispanic adults suffer from a *combination* of threats to their well-being that points to a vulnerable and risk-filled transition from middle to old age.

Disability, not death, is the principal consequence of chronic conditions and the principal concern of aging societies (Jette, 1996; Olshansky Carnes, & Cassel, 1990). Recent conceptualizations suggest that disability ultimately results from the interaction of the individual's functional capacity and the social and physical environment that he or she

encounters (Pope & Tarlov, 1991; Verbrugge & Jette, 1994; World Health Organization, 1997). We have argued that the household is a particularly critical environment for the development of disability, for it defines the roles an individual expects to fill, the tasks associated with these roles, interactions with others, and a built environment. Both previous research and U.S. public policy have stressed the importance of physical environment in shaping the experience of disability. Our results, which show a distinct patterning of living arrangements and functional status, suggest that we should look closely at the household as a key *social* context in which disability may be created or avoided.

Future research on the role of the household in the disablement process will need to adopt a dynamic view, examining transitions in functional status, household structure, and disability over time. This will require specifying more exactly how various household types create or prevent disability. We have assumed and not examined differences across household structures in demands and supports to members. In addition, attention must be paid to intrahousehold processes of adjustment, as the internal dynamics of the household will certainly affect how members respond to functional limitations. It will be particularly important to examine these processes separately by race and ethnicity.

Clearly, such approaches also require moving beyond the task batteries of Basic and Instrumental Activities of Daily Living as indicators of disability. The emphasis in the disablement process on the variety of human activities and the situational and experienced nature of disability suggest a more subjective notion of disability. This innovation will need to be paired with situation-free measures of functional status in order to assess rigorously the interaction of functional status and household environment in the creation of disability.

The difficulties presented by systematically investigating the environmental creation of disability from functional limitations are inherent to relational definitions of disability (Verbrugge & Jette, 1994). However, explicitly addressing the contextual creation of disability is not merely a semantic issue. Current approaches to “successful aging” emphasize a holistic approach to aging well, in particular maintaining health, physical, and cognitive functioning, and engagement with life (Rowe & Kahn, 1997). Assessing the ways in which personal functional status and environmental characteristics shape individuals’ ability to carry out usual roles is entirely consistent with this aim. Such knowledge could have large theoretical and practical payoffs and help maintain a high quality of life of future generations of elders.

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References

- Aquilino WS. The likelihood of parent-adult child coresidence: Effects of family structure and parental characteristics. *Journal of Marriage and the Family* 1990;52:405–419.
- Bengtson, V., Rosenthal, G., & Burton, L. (1996). Paradoxes of families and aging. In R. Binstock & L. K. George (Eds.), *Handbook of aging and the social sciences* (4th ed., pp. 253–282). San Diego, CA: Academic Press.
- Burch TK, Matthews BJ. Household formation in developed societies. *Demography* 1987;13:495–511.
- Burr JA, Mutchter JE. Ethnic living arrangements: Cultural convergence or cultural manifestation. *Social Forces* 1993;72:169–180.
- Czaja, S. J., Weber, R. A., & Nair, S. N. (1993). A human factors analysis of ADL activities: A capability demand approach. *Journals of Gerontology*, 48 (special issue), 44–48.

- Golant, S. M. (1984). *A place to grow old: The meaning of environment in old age*. New York: Columbia University Press.
- Golant, S. M. (1992). *Housing America's elderly: Many possibilities, few choices*, Newbury Park, CA: Sage.
- Himes CL, Hogan DP, Eggebeen DJ. Living arrangements of minority elders. *Journal of Gerontology: Social Sciences* 1996;51B:S42–S48.
- Jette, A. M. (1996). Disability trends and transitions. In R. H. Binstock & L. K. George (Eds.), *Handbook of aging and the social sciences* (4th ed., pp. 94–116). San Diego: Academic Press.
- Lawton, M. P. (1982). Competence, environmental press, and the adaptation of older people. In M. P. Lawton, P. G. Windley, & T. O. Byerts (Eds.), *Aging and the environment: Theoretical approaches* (pp. 31–59). New York: Springer.
- Lawton MP. Residential environment and self-directedness among older people. *American Psychologist* 1990;45:638–640. [PubMed: 2350081]
- Logan, J. R., & Spitze, G. D. (1996). *Family ties: Enduring relations between parents and their grown children*. Philadelphia: Temple University Press.
- Moos RH. Understanding environments: The key to improving social processes and program outcomes. *American Journal of Community Psychology* 1996;24:193–201. [PubMed: 8712186]
- Nagi, S. Z. (1965). Some conceptual issues in disability and rehabilitation. In M. Sussman (Ed.), *Sociology and rehabilitation* (pp. 100–113). Washington, DC: American Sociological Association.
- Newman SJ, Struyk R. Overwhelming odds: Caregiving and the risk of institutionalization. *Journal of Gerontology: Social Sciences* 1990;45:S173–S183.
- Olshansky SJ, Carnes BA, Cassel C. In search of Methuselah: Estimating the upper limits to human longevity. *Science* 1990;250:634–640. [PubMed: 2237414]
- Pope, A. M., & Tarlov, A. R. (1991). *Disability in America*. Washington, DC: National Academy Press.
- Pynoos, J., & Golant, S. (1996). Housing and living arrangements for the elderly. In R. H. Binstock & L. K. George (Eds.), *Handbook of aging and the social sciences* (4th ed., pp. 303–324). San Diego, CA: Academic Press.
- Regnier, V., & Pynoos, J. (1987). *Housing of the aged: Design directives and policy considerations*. New York: Elsevier.
- Ross CE, Wu C. The links between education and health. *American Sociological Review* 1995;60:719–745.
- Rowe JW, Kahn RL. Successful aging. *The Gerontologist* 1997;37:443–440.
- Satariano WA. The disabilities of aging—looking to the physical environment. *American Journal of Public Health* 1997;87:331–332. [PubMed: 9096527]
- Schoenbaum M, Waidman T. Race, socioeconomic status and health: Accounting for race differences in health. *Journal of Gerontology: Social Sciences* 1997;528:S61–S73.
- Siegel, J. S. (1993). *A generation of change: A profile of America's older population*. New York: Russell Sage Foundation.
- Smith JP. Wealth inequality among older Americans. *Journal of Gerontology: Social Sciences* 1997;525:S74–S81.
- U.S. Bureau of the Census. (1994). *Educational attainment in the United States: March 1993 and 1992* [Current Population Reports, P20–476]. Washington, DC: U.S. Government Printing Office.
- U.S. Bureau of the Census. (1996). *65+ in the United States* [Current Population Reports, P23–190]. Washington, DC: U.S. Government Printing Office.
- Verbrugge LM, Jette AM. The disablement process. *Social Science and Medicine* 1994;38:1–14. [PubMed: 8146699]
- Wallace RA, Herzog AR. Overview of the health measures in the Health and Retirement Survey. *Journal of Human Resources* 1995;30:S84–S107.
- Ward R, Logan J, Spitze G. The influence of parent and child needs on coresidence in middle and later life. *Journal of Marriage and the Family* 1992;54:209–221.
- World Health Organization (1997). *International classification of impairments, activities and participation: A manual of dimensions of disablement and health*. Beta-1 draft. Geneva: Author.

Table 1
 Summary Statistics for Measures of Functioning, Living Arrangements, and Covariates in Wave 1 of the Health and Retirement Study, 1992

Measure	<i>M</i> or %	<i>SD</i>
Self-Rated Health (1–5) ^a	3.40	1.20
Mobility Index (0–5)	3.95	1.38
Immediate Recall Score (0–20) ^b	7.43	2.65
Delayed Recall Score (0–20) ^b	5.38	2.81
Similarities Test Score (0–14) ^b	6.10	2.97
Depression index (1–4)	3.54	.44
Self-Rated Emotional Health (1–5)	3.45	1.09
Living Arrangements		
Couple alone	39.4	
Couple with children	27.9	
Couple with others	8.4	
Single alone	12.0	
Single with children	5.5	
Single with others	6.8	
Age	55.9	3.17
Male	46.4	
Race/Ethnicity		
White	73.3	
Black	17.4	
Hispanic	9.3	
Years of Education	12.03	3.21
Household Income (\$1000)	49,322	48,487
Working	67.2	
Number of Children		
0	6.6	
1	8.4	
2–3	46.6	
4+	38.6	
Do Not Own Residence	20.2	
Residence Not a House	18.3	
Residence >2 Stories	37.8	
Residence >6 Rooms	59.9	
Very Easy to Alter Residence	33.7	
Family Members in Neighborhood	34.3	
Friends in Neighborhood	69.8	
<i>N</i>	9410	

^a On all measures of functioning, higher values indicate better functioning.

^b Item missing for more than 7% of cases.

Table 2
 Results From Regressions of Two Measures of Physical Functioning on Living Arrangements and Covariates,
 Wave 1 of the Health and Retirement Study, 1992

Independent Variable	Self-Rated Health			Mobility Index		
	Model 1	Model 2	Model 3	Model 1	Model 2	Model 3
Living Arrangements ^a						
Couple with children	.026	.054	-.041	.124*	.092*	.000
Couple with others	-.293*	-.154*	-.105*	-.288*	-.232*	-.205*
Single alone	-.334*	-.238*	-.151*	-.309*	-.235*	-.192*
Single with children	-.362*	-.207*	-.198*	-.278*	-.117	-.126*
Single with others	-.596*	-.384*	-.178*	-.520*	-.354*	-.192*
Age		-.030*	-.010*		-.022*	-.005
Male		.001	-.132*		.313*	.155*
Black ^b		-.537*	-.308*		-.297*	-.097*
Hispanic ^b		-.630*	-.073		-.303*	.157*
Years Education			.077*			.051*
Household Income			.003*			.002*
Working			.639*			.809*
1 Child			-.012			-.164
2-3 Children			.027			-.115
4+ Children ^c			-.053			-.194*
Do Not Own Residence			-.206*			-.231*
Residence Not a House ^d			.029			.029
2+ Stories in Residence ^d			.106*			.174*
6+ Rooms in Residence ^d			.063*			.081*
Easy to Alter Residence			.094*			.093*
Family Members in Neighborhood			-.064*			-.056*
Friends in Neighborhood			.079*			.124*
Constant	3.520	5.180	2.580	4.028	5.187	2.904
R ²	.03	.07	.24	.02	.04	.17
N	9410	9410	9410	9092	9092	9092

^aReference category is married couples living alone.

^bReference category is Whites.

^cReference category is no children.

^dIndicator for missing on this item not significant, $p \leq .05$.

* $p \leq .05$.

Table 3
 Results From Regressions of Two Measures of Emotional Functioning on Living Arrangements and Covariates,
 Wave 1 of the Health and Retirement Study, 1992

Independent Variable	Self-Rated Emotional Health			Depression Index		
	Model 1	Model 2	Model 3	Model 1	Model 2	Model 3
Living Arrangements ^a						
Couple with children	-.045	-.034	-.103*	-.014	-.006	-.030*
Couple with others	-.301*	-.237*	-.203*	-.102*	-.073*	-.062*
Single alone	-.348*	-.302*	-.220*	-.218*	-.198*	-.160*
Single with children	-.415*	-.316*	-.297*	-.215*	-.165*	-.153*
Single with others	-.457*	-.349*	-.203*	-.229*	-.180*	-.111*
Age		-.005	.004		.002	.006*
Male		.102*	.038		.059*	.026*
Black ^b		-.202*	-.042		-.079*	-.018*
Hispanic ^b		-.322*	.079*		-.137*	-.001*
Years Education			.063*			.017*
Household Income			.002*			.001*
Working			.291*			.176*
1 Child			-.009			-.026
2-3 Children			-.009			-.005
4+ Children ^c			-.013			-.020
Do Not Own Residence			-.145*			-.094*
Residence Not a House ^d			-.036			-.011
2+ Stories in Residence ^d			.062*			.015
6+ Rooms in Residence ^d			.030			.027*
Easy to Alter Residence			.092*			.041*
Family Members in Neighborhood			-.040*			.001
Friends in Neighborhood			.101*			.045*
Constant	3.582	3.860	2.147	3.609	3.474	2.868
R ²	.02	.04	.12	.04	.06	.15
N	9410	9410	9410	9410	9410	9410

^aReference category is married couples living alone.

^bReference category is Whites.

^cReference category is no children.

^dIndicator for missing on this item not significant, $p < .05$.

* $p \leq .05$.

Table 4
 Results From Regressions of Three Measures of Cognitive Functioning on Living Arrangements and Covariates,
 Wave 1 of the Health and Retirement Study, 1992

Independent Variable	Immediate Recall Score			Delayed Recall Score			Similarities Test Score.		
	Model 1	Model 2	Model 3	Model 1	Model 2	Model 3	Model 1	Model 2	Model 3
Living Arrangements ^a									
Couple with children	-.151*	.001	-.125*	-.140*	-.012	-.122	-.103	.069	-.084
Couple with others	-.730*	-.364*	-.238*	.709*	-.358*	-.249*	-.993*	-.421*	-.165
Single alone	-.434*	-.254*	-.123	-.606*	-.372*	-.233*	-.573*	-.239	-.120*
Single with children	-.648*	-.490*	-.476*	-.818*	-.585*	-.561*	-.832*	-.239	-.257*
Single with others	-1.016*	-.612*	-.368	-1.134*	-.662*	-.399*	-1.330*	-.543*	-.353*
Age		-.086*	-.067*		-.083*	-.066*		-.064*	-.033*
Male		.895*	-.974*		-.726*	-.800*		-.234*	-.354*
Black ^b		-1.480*	-1.112*		-1.681*	-1.339*		-2.218*	-1.680*
Hispanic ^b		-1.607*	-.460*		-1.253*	-.243*		-2.431*	-.547
Years Education			.235*			.198*			.415*
Household Income			.003*			.001*			.003*
Working			.243*			.272*			.018
1 Child			.188			.272			-.115
2-3 Children			.167			.257*			-.153
4+ Children ^c			.193			.274*			-.112
Do Not Own Residence			-.174*			-.282*			-.202*
Residence Not a House ^d			-.057			-.001			-.025
2+ Stories in Residence ^d			.107*			.042			.272*
6+ Rooms in Residence ^d			.149*			.108			.183*
Easy to Alter Residence			.009			.037			.028
Family Members in Neighborhood			.005			-.109			-.082
Friends in Neighborhood			-.001			.009			-.232*
Constant	7.695	13.160	8.545	5.672	10.905	6.897	6.410	10.465	3.396
R ²	.01	.11	.19	.02	.09	.15	.02	.13	.32
N	8770	8770	8770	8701	8701	8701	8378	8378	8378

^aReference category is married couples living alone.

^bReference category is Whites.

^cReference category is no children.

^dIndicator for missing on this item not significant, $p < .05$.

* $p < .05$.