Environmental Press and Adaptation to Disability in Hospitalized Live-Alone Older Adults

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Purpose: This study examined the ability of personal competency variables at the time of hospital discharge to predict primary instrumental activities of daily living (IADLs) and secondary outcomes (living arrangements) in a sample of 194 urban, live-alone, older adults who had a new onset disability. Design and Methods: Consecutively admitted medical rehabilitation patients, 72% women and 85% African American, participated in the study. Using path analysis, three of the four competency variables collected at the time of hospitalization (cognition, medical burden, activities of daily living) predicted IADLs at 3 and 6 months after hospitalization (e.g., cooking, telephone use, money management). IADLs, in turn, predicted living arrangements at 3 and at 6 months after hospitalization. Results: The findings provided strong support for the importance of assessing a broad range of competency variables when investigating adaptation to disability. Implications: The increased understanding of adaptation in live-alone older adults with a new-onset disability is particularly timely given the increase in live-alone older adults and the dire consequences associated with change in living arrangement (i.e., mortality and morbidity) in this group.

Key Words: Activities of daily living, Cognitive functioning, Live-alone elders, Rehabilitation

This study focused on the ability of a broad range of personal competencies, assessed at the time of hospital discharge, to predict functional and living arrangement outcomes 3 and 6 months after hospitalization for a new onset disability. The choice of which personal competency variables to measure was guided by Lawton’s environmental press theory (Lawton, 1983). We were unable to collect all of the types of data necessary to test fully Lawton’s theory (i.e., environmental variables); therefore, this investigation should be viewed as a partial test of Lawton’s theory. The personal competencies component of Lawton’s model was tested in a group of elders who experienced a new onset disability and consequently entered a medical rehabilitation facility for treatment. The impact of participants’ competencies at the time of hospitalization was linked to functional abilities (instrumental activities of daily living; IADLs) as a primary outcome; and living arrangement as a secondary outcome 3 and 6 months after hospitalization.

Theory of Environmental Press

Lawton, (Lawton, Brody, & Turner-Massey, 1978, and Lawton, 1983, 1985) presented to the gerontology field a theoretical framework for understanding adaptation to the environment in older persons. The environmental press theory is a theory of adaptation that focuses on person variables (competencies), environmental variables (environmental press), and the interaction between the two variables. Competencies include physical and functional health, cognitive and affective functioning, and quality of life, including sense of efficacy or mastery. Environmental press variables include the person’s home environment, their social environment, and even their neighborhood environment. The fit between a person’s level of competencies and the demands from their environment affect how well an individual is functioning. In the case of being hospitalized for a disability, adaptation may be measured by both basic functional abilities as well as the ability to resume living independently.

Lawton (1985) also recognized and stated clearly that declining functional competencies would also affect environmental press. Morgan and associates (1984) reported findings that partially supported this contention. Less competent individuals demonstrated higher scores on an index of environmental press. The research presented below is salient to the current thrust of research initiatives that are focused on declines in functional health and how well older persons can adapt to their home environment (Gill, Robison, Williams, and Tinetti 1999; Miller et al., 1999). Live-alone elders constitute an appropriate group to test and enhance the utility of the environmental press theory, because living alone is becoming a more normative part of the aging process. Gerontological researchers and practitioners are seeking to deepen their understanding of the process of resuming independent

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living after hospitalization for a new onset disability. For older adults living alone, their individual competencies are likely to determine how well they adapt to disability, both in terms of functional activities and living arrangements.

**Live-Alone Elders in American Society**

Living alone is a growing phenomenon among older adults, particularly among the older old of the U.S. society. Whereas in 1960 20% of adults over age 65 lived alone, by 1980 the rate of older adults living alone grew to 28%, and by 1990 the rate stood at 37%, or 8.9 million older Americans (Krivó & Mutchler, 1989; Mui & Burnette, 1994). The growth of the live-alone population is further highlighted by the fact that over 1 million or 47% of those over age 85 live alone, and this group is the most rapidly growing population of older adults (Mui & Burnette, 1994). To date, living alone has either been characterized in the literature as an indicator of robust health or conversely as an indicator of extreme frailty, and the study of this group has lacked a general theoretical framework.

Researchers have pointed to live-alone elders as aging successfully. Mui and Burnette (1994), utilizing the National Long Term Care Channeling Demonstration project, compared live-alone older adults with those who did not live alone. Eighty percent of those living alone were women. The results pointed to an optimistic view of living alone, as those living alone were better educated, had fewer medical problems, had fewer hospitalizations, had fewer ADL (activities of daily living) and IADL (instrumental activities of daily living) problems, and had less cognitive impairment than those who did not live alone. Despite their robust health, however, those living alone tended to report increased levels of depression and more environmental hazards (i.e., problems with home safety and maintenance) than did those who lived with others.

Other research has characterized living alone as an indicator of frailty. Living alone has been significantly correlated with frailty among older adults receiving emergency medical services (EMS). Gurley, Lum, Sande, Lo, and Katz (1996) investigated the effects of living alone on being found helpless or dead by paramedics. A total of 387 individuals who lived alone were found helpless in their homes during a 12-week period. The authors concluded that the older old (those over age 75) who lived alone are at greater risk of losing not only their physical independence but also their lives.

Frailty combined with older age, exacerbation of chronic medical conditions, or the onset of new medical crises characterize a subgroup of older adults who are at a relatively high risk for losing independence. Pearlman and Crown (1992), utilizing the National Long Term Care survey data, found that older adults who entered a nursing home were more likely to be old-old, living alone, and having had a prior nursing home stay. Rudberg, Sager, and Zhang (1996) reported on risk factors for institutionalization following hospitalization on 1,265 individuals from five hospitals participating in the Hospital Outcomes Project for the Elderly. Thirty-eight percent of the sample were living alone at the time of hospitalization. Overall, 7% of respondents were placed in a nursing home and remained there after 3 months. Increased age and living alone prior to admission were predictors of nursing home placement.

Hospitalized live-alone elders appear to represent a group at higher risk for new onset of disabilities. Pompei and associates (1994) reported that delirious patients were more likely to live alone and have evidence of depression and alcohol abuse.

Research reports have consistently reported a significant relationship between declining functional and cognitive abilities and change in living arrangement. Worobey and Angel (1990) investigated the impact of physical decline on living alone in older adults. Using the Longitudinal Study of Aging, a national sample of 2,500 older adults, 66% of whom were living alone, was surveyed in 1984 and recontacted 2 years later. Increased functional incapacity was related to greater tendency to live with others. Similar conclusions were reported by Miller and colleagues (1999), who used 6 years of data from the Longitudinal Study of Aging for their analyses of community-based moves. Deterioration of advanced ADLs and poorer lower body strength were significant predictors of a community-based residential move. These authors specifically advocated for the inclusion of change in residence as a health outcome indication.

Other investigators have looked at changes in residence following hospitalization in live-alone elders. Friedman (1995) presented one of the few studies that investigated the long-term outcome of older stroke patients who lived alone prior to their stroke. At discharge from the hospital, only 33% returned to living alone; 44% of these patients were placed in an institution. At one year, those survivors who were institutionalized rose to 52%.

The primary shortcoming of the literature concerning live-alone elders to date is the absence of theory to guide the research. In the literature reviewed above, living alone is treated as an independent predictor of a variety of outcomes (e.g., ADLs, IADLs, living arrangements). This is entirely consistent with an empirical approach to identify risk factors for adverse outcomes. Living alone has been a significant risk factor of several health outcomes, including delirium and mortality, but often this finding has been inconsistent, and/or mediated by several other variables such as poverty, gender, cognition, and ADLs. In other studies, living alone has been used as a predictor of optimal adaptation for some people (i.e., high functioning at baseline) and a predictor of least desirable adaptation for others (i.e., low functioning at baseline; see Sarwari, Friedman, Langenberg, and Magaziner, 1998). Living alone has suddenly become a significant predictor variable in gerontological studies, but one with little or no explanatory power. By using the theory of environmental press to guide our research, we can better understand adaptation in live-alone elders who have suffered a new onset disability. The goal of this study...
was to examine several competency variables in relation to functional abilities and living arrangements 3 and 6 months after hospitalization. These included cognition, depression, medical burden, and functional abilities.

Competency Variables Related to Adaptation

Cognitive Functioning.—Measures of cognitive functioning reflect the integrity of the brain and the ability to avoid disability. Epidemiological studies repeatedly identify cognition as one of the significant predictors of disability onset (Gill, Williams, Richardson, & Tinetti, 1996; Miller et al., 1999; Sarwari et al., 1998). Cognitive functioning has also been linked to ADL recovery in hospitalized older adults (Hansen, Mahoney, & Palta, 1999) and to change in living arrangements in live-alone elders. Decreased cognitive functioning may represent one of the more important person variables that leads live-alone older adults to become more dependent. Five studies of live-alone hospitalized elders (Friedman, 1995; Pearlman & Crown, 1992; Pompei et al., 1994; Rockwood, Stolee, & McDowell, 1996; Zureik et al., 1995) found cognitive functioning to be an independent predictor of living arrangements after discharge and delirium during hospitalization. Cognitive decline may represent both a loss of skills necessary for independence as well as a marker for progressive brain disease.

Depression.—Depression is also a predictor of physical recovery from illness (Mossey, Mutran, Knott & Craig, 1989). Recent evidence also suggests that depression precedes disability onset in many older adults. Livingston, Seeman, Merrill, and Blazer (1989) described typical medical comorbidities among hospitalized older adults. In their sample the mean number of health conditions was 3.5, with 60% of the sample having coronary artery disease, 53% hypertension, 51% osteoporosis and 46% degenerative joint disease. Medical burden may exert its effects on independence indirectly through functional abilities. Moore and Lichtenberg (1996) presented a double cross-validation study that indicated a significant relationship between medical burden and functional abilities. Similarly, Pearlman and Crown (1992) found that medical burden was not directly related to institutionalization but, rather, was related to functional abilities.

Functional Abilities: ADLs and IADLs

Lawton (1983), in his Kleemeier award lecture, defined ADL and IADL abilities as the most basic competencies in gerontology. In research reviewed above (Gill et al., 1996; Miller et al., 1999), functional abilities are demonstrated to be central to adaptation in older age and to stability of residence. Sawari and colleagues (1998) demonstrated that older live-alone women who report poor functional health at baseline were the most likely to experience significant decline in functional health relative to women who lived with others. Recently, Dunlop, Hughes, and Manheim (1997) used longitudinal data to document the hierarchy of ADL disability. Walking, bathing, and transferring were the first ADL abilities to decline, followed by dressing, toileting, and feeding.

Aims of the Study

Because of limitations in resources, this investigation could only test how well competency variables predicted adaptation. We were not able to include environmental hazard variables in this study. Three hypotheses were derived, and they are focused on the prediction of primary outcome (IADLs) and secondary outcome (living arrangement) measures.

- **Hypothesis 1:** The competency variables of cognition, depression, medical burden, and performance-based ADLs at discharge from the hospital will predict the primary functional outcome of self-reported IADLs at 3 and 6 months following hospitalization.
- **Hypothesis 2:** The competency variables of cognition, depression, medical burden, and performance-based ADLs during hospitalization will predict living arrangement at 3 and 6 months following hospitalization.
- **Hypothesis 3:** The relationship between personal competency variables and living arrangement will be mediated by self-reported IADLs that will directly predict living arrangements at those time periods.

Methods

Participants

Participants were consecutive admissions to a free-standing midwestern university-based urban medical rehabilitation hospital who were over the age of 60, living alone prior to admission, and who agreed to participate in an interview and testing session at or near discharge. Face-to-face data were collected at baseline during hospitalization, and follow-up data were collected by telephone interviews. Of 219 eligi-
ble individuals, 194 agreed to participate in the study, making an 87% participation rate. Only age and gender were collected for the nonparticipating group, and these variables did not differ from the participating group. Competency variables collected included medical burden (Comorbidity Index), performance-based ADLs (Functional Independence Measure), cognition (Dementia Rating Scale), depression (Geriatric Depression Scale), and self-reported ADLs and IADLs (Lawton & Brody, 1969). Mean age of the sample was 74 years, with 72% women and 85% African American; the group had a mean 11 years of education. Principal rehabilitation diagnoses included arthritic problems (28%, n = 55), stroke (21%, n = 41), lower extremity fracture (16%, n = 31), gait abnormalities (13%, n = 26), and circulatory system problems (7%, n = 13); the rest were a range of conditions (e.g., endocrine disorders, neoplasms, spinal cord injury; 14%, n = 28). In terms of complete data collection (living arrangements plus competency variables) there were 194 at baseline, 131 at time 2, and 118 at time 3. Incomplete data were due to mortality (n = 21), a significant illness (n = 16) that precluded the telephone interview, significant cognitive dysfunction (n = 12), those lost to follow-up (n = 17), and refusals (n = 10). Table 1 compares the characteristics of those who had complete data with those who did not have complete data. The patients who had complete data at all three time points scored significantly higher on the Mattis Dementia Rating Scale (Mattis, 1988) and had less impairment on the Functional Independence Measure at discharge, a performance-based measure of ADLs. There were no differences by age, gender, race, education, comorbid medical illness, or level of depressive symptoms.

Measures

Primary Outcome Variable: Self-reported IADLs.—Self-report of advanced self-care skills was assessed using the Instrumental Activities of Daily Living Scale (Lawton & Brody, 1969), which examines patient perceptions in the following domains: money management, telephone use, medication management, and basic cooking. A total advanced self-care index is calculated by summing scores on the subscales for each participant, with a total possible score ranging from zero (reporting total impairment) to 40 (reporting completely intact abilities).

Secondary Outcome Variable: Living Arrangement.—Miller and colleagues (1999) have specifically called for categorical classification of living situation as either remaining living alone or changing living arrangement to not alone. We therefore measured living arrangement in a dichotomous fashion (alone vs not alone).

Predictor Measures

Cognition.—The Dementia Rating Scale (DRS) was created for use with demented individuals and evaluates domains including attention, initiation, memory, abstract reasoning, and visuospatial construction (Mattis, 1988). The DRS takes 20–45 minutes to administer depending upon the patient’s level of cognitive functioning. The DRS has been found to have excellent test–retest reliability (r = .97) and split-half reliability (r = .90; Coblentz et al., 1973; Gardner, Oliver-Munoz, Fisher, & Empting, 1981). Concurrent validity is also satisfactory, with a significant correlation between the total DRS score and WAIS IQ score (r = .75, Mattis, 1988). Vangel and Lichtenberg (1995) demonstrated that use of the DRS in cognitively intact urban older adults was useful for clinical and research purposes. Results from samples of highly literate and educated older adults found the DRS to have a ceiling effect (Mattis, 1988). Vangel and Lichtenberg, in contrast, found the scores on the DRS not to display a ceiling effect in urban older adults, like due to lower levels of education. Indeed, Lichtenberg (1998) reported that many commonly used neuropsychological tests are more likely to have floor effects when used with less educated, urban older adults. Bank, Yochim, MacNeill, and Lichtenberg (in press) have just finalized new age, and education-corrected norms for the DRS in older cognitively intact urban elders.

Depression.—This was assessed using the Geriatric Depression Scale (GDS; Yesavage et al., 1983). [The original GDS was developed for assessment with geriatric populations, and is composed of 30 yes/no self-referent statements, and has well documented reliability and validity (Lichtenberg, 1998; Rapp, Parisi, & Walsh, 1998).] Past studies support

| Table 1. Characteristics of Individuals With Complete (n = 118) and Incomplete (n = 76) Data at All Three Time Points |
|---------------------------------|---------------------------------|
| Complete Data                  | Incomplete Data                |
| Mean age (SD)                  | 73.75 (8.9)                    | 75.20 (8.9)                    | p = .27 |
| Mean years of education (SD)   | 10.88 (3.9)                    | 10.62 (3.1)                    | p = .62 |
| Percent female                 | 74.6%                          | 67.1%                          | p = .26 |
| Percent African American       | 84.7                           | 81.6                           | p = .83 |
| Mean Comorbidity Index (SD)    | 1.43 (1.1)                     | 2.00 (1.4)                     | p = .18 |
| Mean Dementia Rating Scale (SD)| 121.33 (16.8)                  | 114.03 (19.43)                 | p < .01 |
| Mean Geriatric Depression Scale (SD) | 7.86 (6.5)        | 7.92 (5.3)                     | p = .90 |
| Mean Functional Independence Measure (SD) | 70.28 (12.2)                | 62.36 (16.3)                   | p < .01 |
the use of the GDS with medically ill and mild to moderate cognitively impaired older adults (Lichtenberg, Marcopulos, Steiner, & Tapscoot, 1992; Parmelee, Katz, & Lawton, 1989; Rapp et al., 1988).

Medical Burden.—The comorbidity Index (CMI; Charlson, Pompei, Ales, & MacKenzie, 1987) was originally created for use in predicting mortality. Our own research (Moore & Lichtenberg, 1996), and that by the Health Care Financing Agency (Deyo, Cherkin, & Ciol, 1992), however, have found it to be a valid and excellent predictor of morbidity and disability outcomes. One advantage of the CMI is that it can be culled from medical record databases, thereby reducing the load on physicians. The CMI is both sensitive to severity of different diseases, and efficient to collect. The index was originally developed by ascertaining what combination of diagnoses best predicted 1 year mortality in a group of hospitalized patients (Charlson, 1987). Diseases significantly associated with mortality were identified and weights equivalent to adjusted relative risks assigned. The index was validated on a cohort of 685 medical patients by predicting 1 year survival accounting for a greater proportion of the deaths due to comorbid conditions than a simple measure of number of coexisting conditions. The relationship of the CMI to disability was demonstrated in a double cross-validation study in which the CMI was the best predictor of ADL recovery in medical rehabilitation patients (Moore & Lichtenberg, 1996). Recently, Arken, Lichtenberg, and Kuiken (1998) validated the CMI as a predictor of mortality using older medical rehabilitation patients.

Performance-Based ADL Measure.—The Functional Independence Measure (FIM) is a seven-point rating scale created as part of the Uniform Data System for Medical Rehabilitation (Linacre, Heinemann, Wright, Granger, & Hamilton, 1994). The FIM is a performance-based measure that was designed to assess the ability to carry out ADLs, including dressing, toileting, ambulation, and grooming. Each of 18 self-care tasks is rated on a 7-point scale by a physical or occupational therapist ranging from completely independent (7) to completely dependent (1). The FIM has been shown to have high inter-rater reliability, with an intraclass correlation coefficient of 0.97 for the total score (Hamilton, Laughlin, Granger, & Kayton, 1991). Validity has also been demonstrated with brain-injured patients and stroke patients (Cook, Smith, & Truman, 1994; Granger, Cotter, Hamilton, & Fiedler, 1993). Rasch analysis has provided support for two clinically different aspects of disability (Granger, Hamilton, Linacre, Heinemann, & Wright, 1993; Linacre et al., 1994). Thirteen self-care and locomotion items measure motor disability, and five communication and cognition items measure cognitive disability. Moore and Lichtenberg (1996) and Lichtenberg (1998) demonstrated that a 7-item ADL scale can be used to measure feeding, dressing, grooming, transferring, and toileting.

Statistical Procedures

To test our hypotheses, a series of path models were tested using AMOS 3.6 (Arbuckle, 1997). In these models, the relationships between baseline competency variables and primary (IADL functioning) and secondary (living situation) outcomes at 3 and 6 months following discharge were examined. All models were estimated with maximum likelihood estimation and controlled for the effects of race, age, and education. In the first model, baseline competency variables were used to predict IADL functioning at 3 months (IADL3) and 6 months (IADL6) post-discharge. Paths were estimated between each of the competency variables and IADL functioning at 3 and 6 months. In addition, a stability path was estimated between IADL3 and IADL6. Living situations at 3 months (Alone3) and 6 months (Alone6) were added into the second path model. Because Alone3 and Alone6 are dichotomous variables, the standard errors for the coefficients involving these two variables may be underestimated and result in spuriously significant results. To correct for this potential problem, we followed West and associates’ (1995) suggestion to adjust the significance level to a more conservative level ($p < .01$, rather than $.05$).

Results

Overall, the participant group represented elders who had higher rates of disability and higher rates of service usage than many samples of community-dwelling elders. At baseline, 77% of the sample reported being fully independent with ADLs prior to hospitalization. This decreased to 59% at 3 months and 51% at 6 months. In contrast, those reporting three or more ADL limitations grew from 10% at baseline to 14% at 3 months and 17% at 6 months. Fifty-four percent of the sample used community services at baseline, 58% at 3 months and 17% at 6 months. Fifty-four percent of the sample used community services at baseline, 58% at 3 months, and 58% at 6 months (housekeeper, transportation, church volunteers, and Meals on Wheels). Return to living alone is a dynamic characteristic that increased from 44% at baseline to 60% at 3 months, and to 70% at 6 months. Transitions back to living alone occurred equally between those discharged to nursing homes and those discharged to families. Living with family decreased from 28% to hospital discharge to 14% at 3 months to 11% at 6 months. Living at a nursing home decreased from 20% at discharge to 14% at 3 months to 8% at 6 months.

A model was developed to test part of the environmental press theory. Medical burden, cognition, depression, and performance-based ADLs were only collected at baseline, whereas self-reported functional abilities were collected at 3 and 6 months. In each of the models described below, age, education, and race were statistically controlled. Age was significantly associated with DRS (−.305) and FIM (−.217). Race was not significantly associated with DRS, CMI, FIM, or GDS. Education was significantly related to GDS (−.318) and DRS (.478).

As described above, in the first path, model baseline competency variables were used to predict IADL
functioning at 3 months and 6 months postdischarge. These analyses indicated that all four competency variables were significant predictors of IADL3 (Betas: CMI = -.259; DRS = .244; FIM = .526; GDS = -.146) and IADL6 (Betas: CMI = -.239; DRS = .250; FIM = .512; GDS = -.193). However, when the stability path between IADL3 and IADL6 was included, the predictive relationships between baseline competencies and IADL6 were fully mediated by IADL3. The best predictor of IADL6 was IADL3 (Betas = .784).

Living situations at 3 months (Alone3) and 6 months (Alone6) were added into the second path model. In the initial form of this model, each of the competency variables predicted IADL3 and Alone3 and Alone6. As in the previous model, competency variables significantly predicted IADL3. In addition, IADL3 and IADL6 both were significant predictors of the living situation at their respective time periods. However, the competency variables did not add substantially to the prediction of living situation above and beyond their indirect effects via IADL functioning, suggesting that the influence of competency variables upon living situation is mediated by IADL functioning. This final model with significant coefficients is pictured in Figure 1; demographic effects and error elements (i.e., zeta's) are not pictured in order to simplify the diagram. Each of the coefficients between the competency variables and IADLs were significantly less than \( p < .05 \) and, as described above, the paths between IADL3 and Alone3 as well as IADL6 and Alone6 are significant beyond \( p < .01 \).

**Discussion**

In the present study only half of Lawton's model—the competency variables—could be tested. The results, nevertheless, provide support for that part of the theory in that each competency variable was directly related to functional abilities at 3 and 6 months after hospitalization. Furthermore, each competency variable was indirectly related to living arrangement at those time periods as well. Functional ability, characterized by the IADL scale, acted as a mediator variable between the competency variables (i.e., cognition, depression, medical burden, and ADLs), and living arrangement.

Lawton's environmental press is the first theoretical framework to be applied to the understanding of live-alone elders. In this study only the impact of competency variables was assessed. One can speculate that these elders may be more vulnerable to the impacts of disability because living alone requires broad areas of competency. New onset disability—coupled, perhaps, with increased medical problems and regimens, as well as decreased cognitive functioning and increased depression—makes it prohibitive for some elders to return to their homes during the first 6 months after hospitalization. The theory, when fully tested, may also provide a framework for gerontologists to understand older adults' successful adaptation following medical rehabilitation. The results clearly emphasize the importance of a variety of different competencies that are best understood within an interdisciplinary context. Although medical and nursing personnel may best understand chronic diseases and their treatments, physical and occupational therapists may have the best understanding of functional abilities, and psychologists and social workers may be best able to assess cognitive and affective functioning. The results clearly support the importance of these domains of competencies in determining adaptation and both primary (functional abilities) and secondary (living arrangements) health outcomes.

Generalizability of the findings from this study are clearly limited. The study participants were predominantly urban African American elders who were hospitalized for a medical rehabilitation disorder. Live-alone African American elders are in some ways quite distinct from European American live-alone elders. Our sample, consistent with previous research, found a higher level of childlessness in live-alone African Americans than in European Americans (35% vs 7%).

The challenge of maintaining independence and high quality of life is intensified in urban Black elders, both because of the racial disparities that exist in terms of disease prevalence and functional disabilities, and because of the effects of poverty on environmental variables. Clark (1997) presented evidence indicating that disabilities were not only more prevalent in Black than in White elders (33% vs 22%), but that racial disparities in disabilities had increased 37% from 1982 to 1989. Miller and associates (1996) reported that inner city African American elders had worsening health, more IADL difficulties, and more days of restricted activities than did samples of White elders. Older African American adults living in urban areas have also been shown to experience more health problems than did previous cohorts. For example, Ford, Haug, Roy, Hones, and Folmar (1992) found that increases in the number of African Ameri-

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Figure 1. Path diagram depicting the significant relationships between baseline competency variables, IADL functioning, and living situation at 3 and 6 months postdischarge. IADL = Instrument activities of daily living; CMI = Comorbidity Index; DRS = Dementia Rating Scale; FIM = Functional Independence Measure; GDS = Geriatric Depression Scale.
can older adults in a midwestern city contributed to a decreased overall health of the 1987 cohort of older adults versus the 1977 cohort. Of particular note were higher rates of diabetes, hypertension, and the number of older adults who had four or more chronic health conditions. These same researchers also noted the African Americans were at greater risk for the development of mental health problems. Coward and colleagues (1997) specifically investigated racial differences in health of live-alone elders. Overall, Black elders had poorer health on all five indicators used, and the authors concluded that factors such as education, poverty, and gender mediated this finding.

Living alone may exacerbate the risk of social isolation in Black elders. Simonsick, Kasper, and Phillips (1998) found that older African American women who lived alone were at particular risk for home confinement. Other researchers have specifically compared the rate of residence change in Black versus White live-alone elders. Older urban African American adults who live alone are more likely to change their living arrangements and to end up living with others than are urban White older adults (Choi, 1991; Hays, Fillenbaum, Gold, Shanley, & Blazer, 1995). Rubinstein, Kilbride, and Nagy (1992) documented that 33% of the African American older adults they studied lived alone, and that women represented 77% of this group. Eighty-six percent of their sample preferred to live alone, and health problems were the predominant reasons that living arrangements were changed.

The present research findings serve to further inform gerontologists about older live-alone African Americans. Given the extra challenges of poorer health conditions, poverty and neighborhood deterioration, the importance of broad-based assessments that tap into all of the competencies discussed above are heightened. The environmental press theoretical framework holds great promise in its application to the understanding of changing adaptation during times of changing competencies. Future investigations should clearly measure all variables relevant to theory, including home hazards, and the social environment in which older adults live.


References


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