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# Cultural Comparison of Chronic Conditions, Functional Status, and Acceptance in Older African-American and White Adults

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## Abstract

*Acceptance of functional decline accompanying chronic illness is challenging for all elders, and even more so for African-American elders. This study examined functional status and the number, types, and acceptance of chronic conditions in 16 African-American and 46 White elders. African-American elders reported better functioning but resembled Whites in number of chronic conditions and acceptance. All African-Americans reported hypertension; 76% of Whites reported arthritis. Greater acceptance was correlated with fewer chronic conditions ( $r = -.23, p < .05$ ) and better functioning ( $r = -.59, p < .01$ ). Poorer functioning (i.e., functional disability) was correlated with more chronic conditions ( $r = .27, p < .05$ ). Culturally sensitive interventions are needed to enhance elders' acceptance of chronic conditions and to improve their functioning.*

**Key Words:** acceptance, chronic conditions, functional status, health disparities

## Introduction

Aging increases vulnerability to chronic illness and millions of Americans develop chronic conditions as they age (Rice & Fineman, 2004; Wagner, Austin, Davis, Hindmarsh, Schaefer et al., 2001). Currently 75% of older adults in the United States have at least one chronic condition (Ko & Coons, 2005), and 50% have two or more (Wolff, Starfield, & Anderson, 2002). Based on data from the Medicare Current Beneficiary Survey (MCBS), the most prevalent individual conditions among the over-65 population include: arthritis (57%), hypertension (55%), pulmonary disease (38%), diabetes (17%), cancer (17%), and osteoporosis (16%) (Partnership for Solutions, 2002). In recent years, the health gap between minority and non-minority Americans has persisted, and in some cases, has increased. In describing health-care disparities of African-Americans from a historical perspective, Byrd and Clayton (2003) stated that African-Americans experience healthcare differently from

Whites and other populations within the nation, and have experienced the worst health status, suffered the worst health outcomes, and have been forced to use the worst health services of any other racial or ethnic group.

## Background and Significance

### Chronic Illness and Loss

Chronic illnesses bring many losses, including loss of functional ability and difficulty in performing daily activities (Chesla, 2005; Hummel, 2008; Larsen, 2008). Like other losses, the loss of function can cause varied psychological and physiological reactions (Hummel, 2008; Yang & George, 2005), making it necessary to assist elders in accepting their chronic illness and disability. In chronic pain patients, accepting the chronic nature of their illness has been positively related to better quality of life, including greater emotional stability and less psychological distress (Van Damme, Crombez, Van Houdenhove, Mariman, & Michielsen, 2006). In addition, a recent study by Detaille and colleagues (2006) found that patients with diabetes mellitus (DM) emphasized the importance of emotional acceptance of DM in coping at work. Kintner (1997) has defined acceptance of chronic illness or disability as coming to terms with or identifying with the illness or disability as a natural circumstance in one's life and taking control over illness-imposed limitations.

Acceptance of the loss of physical functioning and the psychological and social implications of not being fully functional can be a major challenge for elderly persons. Yet acceptance of their chronic condition may lead to better health outcomes and quality of life (Phillips, 2005; Stuijbergen, Seraphine, & Roberts, 2000). However, studies are needed to explore acceptance in older adults with chronic illness, and to look at the relationship of acceptance to functional status in both Whites and African-Americans. The theoretical framework for this study was based on the seminal work of Wright (1960), who con-

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ceptualized the process of acceptance of health problems and disabilities as a series of value changes. This descriptive study therefore examined the types and number of chronic conditions, functional status, and acceptance of chronic conditions among older African-American and White adults living in retirement communities (RCs), and explored the relationships among the number of chronic conditions, functional status, and acceptance.

## Methodology

### Design, Sample, and Setting

A cross-sectional, descriptive design was used to explore the number of chronic conditions, functional status, and acceptance of chronic conditions in a convenience sample of African-American ( $n = 16$ ) and White older adults ( $n = 46$ ). The study was part of a larger study of elders residing in six retirement communities (RCs) in Northeast Ohio. Sample size was determined by power analysis for chi-square and correlational analyses. Since this is the first study to examine the relationships among chronic conditions, functional status, and acceptance in elders living in RCs, medium to large effect sizes were used for estimating power. With a power of .80 and alpha level at .05, the available sample of 62 elders was sufficient for showing medium to large effects ( $V = .30$  to  $.50$ ) using chi-square analysis and for detecting correlations of  $r = .35$  (Cohen, 1992).

### Institutional Review Board Approval

Because this study involved human subjects, it was necessary to seek human subjects approval. Thus, approval from the Institutional Review Board was sought and obtained prior to data collection.

### Recruitment Procedures

Potential subjects were identified by administrators from the various facilities, and the subjects were recruited during a face-to-face group meeting held to explain the study's purpose. Participants had to be residents of the RC; able to read, understand, and speak English; receiving services or assistance with at least one activity of daily living including ambulation, toileting, meal preparation, shopping, and housework; and cognitively intact as determined by a score of 7 or higher on the 10-item Short Portable Mental Status Questionnaire (SPMSQ) (Pfeiffer, 1975). No subjects were excluded on the basis of gender, race/ethnicity, or socioeconomic status. To obtain as many African-American participants as possible, RCs where African-American older adults were known to reside were specifically targeted. Following informed consent, elders were interviewed individually by trained data collectors in a private setting at a mutually agreed-upon time. Data collection involved one 40-45 minute face-to-face interview.

### Instrumentation

**Demographics.** Age was recorded as participants' reported age in years, with cross-validation by birth date. Gender and race were recorded by participants' self-report.

**The Older Adults Resources and Services (OARS) Multidimensional Functional Assessment Questionnaire (MFAQ).** Chronic conditions were measured using an instrument developed by Fillenbaum (1988) to measure physical health as a component of the Older Adults Resources and Services (OARS) Multidimensional Functional Assessment Questionnaire (MFAQ). "Yes" or "no" responses were used to indicate whether the elders experienced any of the 26 chronic conditions. Acceptable test-retest reliability ( $r = .50, p < .001$ ) for the MFAQ in older adults after six weeks has been reported (Zauszniewski, Bekhet, Lai, McDonald, & Musil, 2007). Evidence of concurrent validity has been demonstrated in the consistency reported between self-reports of chronic conditions by older adults and documentation found in their medical records (Ockander, Hjerpe, & Timpka, 2002; Skinner, Miller, Lincoln, Lee, & Kazis, 2005) and physicians' ratings (Horner, Cohen, & Blazer, 2001).

**The Health Assessment Questionnaire-Disability Index (HAQ-DI).** Functional status was measured by the 20-item Health Assessment Questionnaire-Disability Index (HAQ-DI) (Bruce & Fries, 2003) which asks about functioning during the past week in eight areas: dressing and grooming, arising, eating, walking, hygiene, reaching, gripping, and outdoor activities. Responses are on a 4-point scale ranging from "without any difficulty" to "unable to do on own," with a checklist of aids used for assistance. Scores are added for a total score ranging from 0 to 24; higher scores indicate greater disability. The HAQ-DI has been widely used, and substantial evidence of its reliability and validity has been accumulated across diverse populations (Bruce & Fries, 2003). Test-retest correlations have ranged from 0.87 to 0.99. Correlations between interview and questionnaire formats have ranged from 0.85 to 0.95. There is consensus that the HAQ-DI possesses face and content validity. Correlations between questionnaire or interview scores and task performance have ranged from 0.71 to 0.95 demonstrating criterion validity. The construct/convergent validity, predictive validity, and sensitivity to change have also been established in numerous observational studies and clinical trials. The HAQ-DI has also demonstrated a high level of convergent validity based on the pattern of correlations with other clinical and laboratory measures.

**The Ideas about Long-Standing Health Problems (IALHP) questionnaire.** Acceptance of chronic conditions was measured by the Ideas about Long-Standing Health Problems (IALHP) questionnaire, modified from the Ideas about Diabetes-Revised (IAD-R) questionnaire developed by Dion (1990). With permission of the author, the questionnaire was modified by replacing the word "diabetes" with the phrase "long-standing health problem." The IALHP contains 20 items asking the extent to which respondents accept the implications of long standing health problems. Responses range from strongly agree (4) to strongly disagree (0) on a 5-point Likert scale. Cronbach's alpha was reported to be .83 in a sample of older adults (McDonald, Zauszniewski, & Bekhet, 2008). Construct validity of the IALHP was evidenced by significant cor-

**Table 1. Types and Number of Chronic Conditions**

Variables	African-American (N = 16)	White (N = 46)	$\chi^2$
<b>Types of Chronic Conditions</b>			
Arthritis <sup>a</sup>	11 (68.8%)	35 (76.1%)	.334
High blood pressure <sup>a</sup>	16 (100.0%)	20 (43.5%)	15.58**
Heart trouble <sup>b</sup>	4 (25.0%)	21 (45.7%)	2.10
Circulation problems <sup>a</sup>	5 (31.3%)	12 (26.1%)	.81
Diabetes <sup>b</sup>	5 (31.3%)	5 (10.9%)	3.65+
<b>Number of Chronic Conditions<sup>b</sup></b>			
3 or Less	9 (56.3%)	26 (56.5%)	.001
4 or More	7 (43.8%)	20 (43.5%)	
<b>Functional Status<sup>b</sup></b>			
Self-Sufficient	10 (62.5%)	17 (37.0%)	3.15 +
Some difficulties in performing ADL	6 (37.5%)	29 (63.0%)	
<b>Acceptance<sup>b</sup></b>			
High acceptance	9 (56.3%)	23 (50.0%)	.19
Low acceptance	7 (43.8%)	23 (50.0%)	

\*  $p < .01$

\*\* $p < .001$

<sup>a</sup> Some cells have expected count less 5

<sup>b</sup> No cells have expected count less 5

+ Approaching significance ( $p = .056, p = .069$ )

relations between the IALHP scale and measures of self-assessed health ( $r = .53, p < .001$ ), depression ( $r = -.44, p < .001$ ), anxiety ( $r = -.39, p < .001$ ), and functional status ( $r = -.53, p < .001$ ).

**Results**

The sample consisted of 62 older adults ( $N = 62$ ), including 46 Whites ( $n = 26; 74\%$ ) and 16 African-Americans ( $n = 16; 26\%$ ). There were 54 women (87%) and 8 men (13%). Their age range was from 64 to 96 years of age with an average age of 82. White subjects were significantly older ( $M = 83.96; SD = 5.97$ ) than African-American subjects ( $M = 76.06; SD = 7.66$ )  $t(1,60) = 4.23, p < .01$ .

The most commonly reported chronic conditions were arthritis (74.2%), high blood pressure (58.1%), heart trouble (40.3%), circulation problems (27.4%), and diabetes (16.1%). All African-Americans reported high blood pressure and the majority of White elders (76.1%) reported arthritis. Approximately 31.3% of African-American elders and 26.1% of White elders reported circulation problems.

Twenty-one of 46 White elders (45.7%) reported having heart trouble, but only 4 African-Americans (25%) reported this condition. The proportion of elders with high blood pressure significantly differed between African-Americans and Whites ( $\chi^2[2, N = 62] = 15.58, p < .01$ ). Also, speech impairment significantly differed between the groups ( $\chi^2[1, N = 62] = 5.94, p = .02$ ) with only two African-American elders reporting this condition. Table 1 summarizes the types and number of the most commonly reported chronic conditions.

The mean score for the number of chronic conditions was 3.32 ( $SD = 1.61$ ). The median score of 3 was used to split the data to create two categories of chronic conditions: high and low. African-American and White elders did not significantly differ in the number of chronic conditions ( $\chi^2[1, N = 62] = 0.00, p = .61$ ). The mean score for functional status was 8.79 ( $SD = 5.55$ ). Using the median functional status score of 8, participants were classified as "self-sufficient" (score below 8), or having "some difficulties in performing ADL" (score of 8 or more). African-Americans reported higher levels of self-sufficiency than White elders did though the difference was not significant ( $\chi^2[1, N = 62] = 3.15, p = .069$ ). The mean score on acceptance of chronic conditions was 70.98 ( $SD = 9.44$ ). The median acceptance score of 71 was used to categorize elders as having "high acceptance," while those with a median score of 71 or less were classified as having "low acceptance" of chronic conditions. African-American and White elders were found to be similar in their acceptance of chronic conditions ( $\chi^2[1, N = 62] = 0.19, p = .45$ ) (see Table 1).

**Correlations among the study variables.** Using a one-tailed test, Pearson Product Moment Correlation analysis (Table 2) revealed a significant negative correlation between acceptance of chronic conditions and the number of chronic conditions ( $r = -.23, p < .05$ ). Poorer functioning was significantly positively correlated with a greater number of chronic conditions ( $r = .27, p < .05$ ). Greater acceptance was significantly associated with better functional status ( $r = -.59, p < .01$ ) (see Table 2).

**Table 2. Correlations among Study Variables, Means, and Standard Deviations**

	Chronic Conditions (n = 62)	Functional Status (n = 62)	Acceptance of Chronic Conditions (n = 62)
Chronic conditions	—		
Functional status	.27*	—	
Acceptance of chronic conditions	-.23*	-.59**	—
Mean (SD)	3.32 (1.6)	8.79 (5.6)	70.98 (9.4)
* $p < .05$ ; ** $p < .01$ (1-tailed)			

## Discussion

This study was the first attempt to examine relationships among chronic conditions, functional status, and acceptance in African-American and White elders living in retirement communities. As one might expect, elders with more chronic conditions had greater functional disability. Chronic conditions affect a person's physical and mental health, and people with multiple chronic conditions are at greater risk for disability (Anderson & Horvath, 2004). Elders with more chronic conditions also had lower levels of acceptance. Richardson, Adner, and Nordstrom (2001) also reported a significant negative relationship between acceptance and the presence of two or more complications of diabetes. Older persons with more health problems may have more functional limitations and disabilities, and this may affect acceptance of their chronic conditions. Elders who had higher levels of acceptance had higher levels of function, which could positively affect their quality of life.

African-Americans reported higher levels of functioning than Whites did, unlike previous studies, in which Whites reported higher levels of functioning than African-Americans did (Dunlop, Manheim, Sohn, Liu, & Chang, 2002). However, in prior research, there were also higher rates of chronic illness and co-morbidity reported in African-Americans. In this study, Whites' poorer functional status may have been related to the more debilitating effects of arthritis and heart trouble. Over three-quarters (76.1%) of Whites had arthritis and 45.7% had heart trouble, while only 68.8% and 25%, respectively, of African-Americans experienced these two conditions. In addition, African-Americans may have perceived their functioning more positively than did Whites (Hess, 2007), in part because the mean age for African-Americans was 76, while for Whites it was 84. Other factors such as education, socioeconomic status, belief system, and genetics may also have contributed to the difference in functional status. Future studies need to explore the effects of such factors on functional status.

Although other studies have described a multitude of health disparities between African-American and White elders (Byrd & Clayton, 2003), such disparities were not found in this study. Given the small number of African-American elders who live in retirement communities, it might be that those in the sample represented a unique group of African-American elders who may be more similar to White elders than to other African-American elders, in part, because of the support, care, and resources available to them.

## Implications of the Study

African-Americans and Whites did not differ significantly in acceptance of chronic conditions. Previous studies have not compared African-American and White elders on acceptance of chronic conditions, though the importance of acceptance has been recognized as a way to diminish the aversive meaning of chronic disease (Evers, Kraaijaat, van Lankveld, Jongen, Jacobs et al., 2001). The

dynamics of the relationship of multiple chronic conditions and acceptance need further exploration. For example, it is not clear whether the cumulative effects of multiple, concurrent conditions overwhelm the potential to accept one's situation and level of function. This is particularly important given findings by others suggesting the relationships among acceptance, health status, and quality of life (Phillips, 2005; Stuifbergen, Seraphine, & Roberts, 2000). Other studies have found that factors such as social support and positive cognitions can also influence acceptance (Dion, 1990; Zauszniewski, McDonald, Krafcik, & Chung, 2002). Future studies should examine the effects of these factors on acceptance in older African-American and White adults.

Participants in this study had a high level of acceptance ( $M = 71$ ,  $SD = 9.4$ ); this might have been because they had already begun to adjust to their chronic conditions and to manage their functional limitations (Larsen & Hummel, 2008). The results also indicated that older adults with greater acceptance of chronic conditions had better functional status ( $r = -.59$ ,  $p < .001$ ). Similarly, Richardson and colleagues (2001) found that participants with diabetes who reported greater acceptance of the disease had better metabolic control.

Chronic conditions, by definition, cannot be cured, and seeking a cure is thought to distract patients and providers from realistic behaviors (Chesla, 2005; Crumbie, 2002). Therefore, promoting acceptance in elders with chronic conditions may be more beneficial than trying to control largely uncontrollable symptoms. The next step is to develop appropriate interventions to help elders maintain healthy, independent, and productive lifestyles through acceptance.

## Limitations of the Study

There are several limitations related to methodological and sampling issues. First, the use of convenience sampling limited the generalizability of the findings to older adults with chronic conditions residing in retirement communities and the majority of the participants were White women. Therefore, the sample may not be representative of all elders residing in retirement communities. Second, given that the current study is cross sectional, it is difficult to assess changes in the study variables over time. Therefore, acceptance at a single point in time may not take into account previous chronic conditions, functional status, or acceptance. A longitudinal study may be useful in examining causal effects among the study variables in older adults over time. Third, given that data were collected during face-to-face interviews, social desirability may have influenced how the elderly persons responded to questionnaire items.

## Implications for Further Research

The findings from the current study have implications for future research. First, future studies need to explore the effects of education, socio-economic status, belief system, and genetic factors on chronic conditions, functional

status, and acceptance. Second, future studies may also consider the inclusion of a larger sample of African-American elders who live in retirement communities with a comparative sample of White older adults to investigate the multitude of health disparities between African-American and White elders. Third, future studies should examine the effects of social support and positive cognition factors on acceptance in older African-American and White adults. Fourth, an experimental study is needed to examine the effectiveness of acceptance techniques on quality of life among African-American and White older adults with chronic conditions residing in retirement communities. Future research may also consider measuring the effects of acceptance interventions over time, for example, after 3 months, 6 months, and one year. The significance of a longitudinal study would be to test the effectiveness of the intervention and provide a clearer description of the management of chronic conditions and possible prevention of further deterioration over time. Finally, a comparative study of the effects of acceptance on African-American and White older adults on the physical, psychosocial, and cognitive functioning of elderly persons is needed.

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