


Who Works Among Older Black and White, Well-Functioning Adults in the Health, Aging, and Body Composition Study?

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Abstract

Objective: The aim of this study is to examine social, economic, and health factors related to paid work in well-functioning older adults and if and how these factors vary by race. **Method:** We used sex-stratified logistic and multinomial logistic regression to examine cross-sectional data in the Health, Aging, and Body Composition cohort study. The sample included 3,075 community-dwelling Black (42%) and White adults aged 70 to 79 at baseline. **Results:** Multinomial logistic regression analyses show Black men were more likely to work full-time, and Black women were more likely to work part-time. Men with \geq US\$50,000 family income were more likely to work full-time. Men with better physical functioning were more likely to work full- and part-time. Women with \geq US\$50,000 family income and fewer chronic diseases were more likely to work full-time. Women who were overweight and had fewer chronic diseases were more likely to work part-time. **Discussion:** Results suggest that well-functioning, older Black adults were more likely to work than their White counterparts, and working relates to better health and higher income, providing support for a productive or successful aging perspective.

Keywords

work status, race, health, socioeconomic status, community-dwelling, well-functioning

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Improvements over the last few decades in life expectancy and functional status for older adults aged 70 and above (Freedman, Martin, & Schoeni, 2002; Manton, 2008; Ostchega, Harris, Hirsch, Parsons, & Kington, 2000; Seeman, Merkin, Crimmins, & Karlamangla, 2010) have allowed many to work past traditional retirement age. National data in 2015 estimated that 15.8% of men and 9.2% of women aged 70 and above were in the labor force (Bureau of Labor Statistics, 2016). Incentives for older adults to work can be categorized as positive (e.g., opportunity for social interaction, earning extra income and savings, maintaining high levels of physical and/or mental function, stimulating work environment, or married couples supporting each spouse's labor force participation; Hinterlong, 2006; Rosegrant, 2013) or negative (e.g., declining retirement security due to economic recessions, supplementing inadequate income, or covering health insurance costs; Anderson, Richardson, Fields, & Harootyan, 2013; Copeland, 2010).

Current research on older workers, who are members of racial and ethnic minority groups, is sparse (Burr & Mutchler, 2007). Prior research shows a lower

percentage of older Black compared with older White workers (Bound, Schoenbaum, & Waidmann, 1996; Burr & Mutchler, 2007; Flippen & Tienda, 2000; Green, 2005). This trend exists in part because Black adults generally experience an earlier age of chronic disease and disability onset and shorter life expectancies (Bulatao & Anderson, 2004; Peek, Coward, Henretta, Duncan, & Dougherty, 1997). Therefore, Black adults exit the labor force earlier than their White counterparts (Bound et al., 1996; Green, 2005).

Even among well-functioning older adults (i.e., freedom from difficulties with activities of daily living and

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lower extremity functional limitations, where participants reported no need to use specialized equipment, such as canes, walkers, or crutches; Rooks et al., 2002), who might be more physically able to work, racial health disparities still exist. Well-functioning, older Black adults generally have lower socioeconomic status (SES; Rooks et al., 2002) and poorer physical functioning (Simonsick et al., 2008; Thorpe et al., 2011) than their White counterparts. However, within a mobility-intact population, little research addresses if economic and health factors play a role in older adults' choices to work or not.

In the well-functioning Health, Aging, and Body Composition (Health ABC) cohort study, racial disparities between Black and White older adults in physical functioning persist over time. Simonsick et al. (2008) found that Black women and men were less likely to walk (i.e., less than 30 min of weekly walking) and were at greater risk of unrecognized mobility deficits (i.e., those who were excluded from the long distance corridor walk of 400 m for a medical problem, needed greater than 7 min to complete the walk, or were unable to complete the walk) at baseline in 1997-1998 (Simonsick et al., 2008). Also, the likelihood of unrecognized mobility deficits increased for obese individuals, which is important to note because obesity and being Black were associated with nonwalkers. Thorpe et al. (2011) reported that while Health ABC adults were free of mobility limitations at baseline, Black adults had lower walking speeds, independent of age, study site, health status, and SES. Moreover, after 5 years, they were more likely to develop mobility limitations, accounting for age, site, and baseline health status and mobility. However, accounting for SES eliminated racial disparities in incident mobility limitation for women but not men. Education contributed to developing mobility limitations among older men.

Using descriptive data from the high-functioning MacArthur Study of Successful Aging (MSSA) cohort, similar to the Health ABC cohort in age range and functional status, Glass, Seeman, Herzog, Kahn, and Berkman's (1995) study was the only one to our knowledge that examined racial and ethnic differences in working as one type of productive activity rather than as a composite measure, usually a count of multiple types of productive activities during the last 12 months (Hinterlong, 2008). Productive activities or engagement among older adults include those activities that have economic consequences, such as housework, yard work, paid work, child care, informal helping, and volunteering (Glass et al., 1995; Hinterlong, 2008). Glass et al. (1995) found that the highest functioning older adults were 3 times more likely to do any paid work than their low- and moderate-functioning counterparts (18% vs. 6%; Glass et al., 1995). Also, Black and Hispanic versus White adults were significantly more likely to do any paid work (20% vs. 12%).

In the national American Changing Lives survey of those aged 60+ at baseline, Hinterlong (2006) found that

23% of each group of African Americans and Whites performed formal paid employment at Wave 1 in 1986, with lower rates at Wave 2 in 1989 (15 vs. 17%) and Wave 3 in 1994 (10 vs. 12%). In the MSSA, working trends among high-functioning older adults aged 70 to 79 were higher than the similarly aged older adults in Wave 3 of the American Changing Lives survey. Also, the MSSA showed that when comparing racial and ethnic differences in working in a similarly high health status group, where health differences were somewhat controlled as an entry criteria for the study, racial and ethnic minority versus White older adults were more likely to work.

Paid work is one aspect of productive activities related to active social and physical functioning among older adults (Hinterlong, 2006). Healthier older adults are more likely to work (Glass et al., 1995; Parnes & Sommers, 1994), but the relationship between health and employment often has a bimodal pattern, where older adults work to stay active and healthy or for economic necessity (Rosegrant, 2013). Productive and successful aging perspectives posit that working helps older adults stay physically and socially active and healthy (Bass & Caro, 2001; Rowe & Kahn, 1998; Taylor & Bengtson, 2001). From these perspectives, the goal of many older adults is to postpone absolute retirement until older adults are limited by health conditions and disability. If older adults work and have higher social and economic levels, this will support a productive or successful aging perspective. Alternatively, the political economy perspective on aging states that unequal power in society causes limited and unequally distributed resources through social structures such as education, the labor force, and health care systems (Lennox Kail, Quadagno, & Reid Keene, 2009). In addition, racial minorities may experience older adulthood differently, where inequalities in power and subsequent resources create differences in racial minorities' accumulated wealth over time that would enable them to leave the labor force (Taylor & Bengtson, 2001). If older adults work and have lower social and economic levels, this will support a political economy perspective on aging. These frameworks suggest that considerable variation may exist in the social, economic, and health factors related to working.

We examine if working among well-functioning older adults varies by race and the relationship between social, economic, and health factors and working. We hypothesize the following in well-functioning older adults:

Hypothesis 1: Black adults will be more likely to work than White adults.

Hypothesis 2: Working will relate to higher social and economic factors than not working.

Hypothesis 3: Working will relate to fewer prevalent health problems than not working.

Method

Data

The Health ABC study is a longitudinal, cohort study developed and supported by the Laboratory of Epidemiology and Population Science of the National Institute on Aging (NIA). Its aim was to gain an understanding of the onset of functional limitations in relation to changes in body composition and disease-, behavioral-, and social-related factors. Participants were identified from a random sample of White Medicare beneficiaries and all age-eligible Black community residents in designated zip code areas surrounding the Memphis, Tennessee (University of Tennessee, Memphis) and Pittsburgh, Pennsylvania (University of Pittsburgh) field centers. The study population consisted of 3,075 community-dwelling, well-functioning men and women aged 70 to 79 at baseline. Fifty-two percent of the cohort were female and 42% were Black adults. At enrollment, all cohort members were free of difficulties with activities of daily living and lower extremity functional limitations. Baseline data, collected between April 1997 and June 1998, included an in-person interview, survey, and a clinic-based examination with evaluations of body composition, clinical and subclinical diseases, physical functioning, and social and behavioral attributes. A detailed description of the Health ABC sample was previously published (Rooks et al., 2002). This study was approved by the Colorado Multiple Institutional Review Board, project #3535220.

Measures

Dependent variables. Work status was determined from responses to the following question: Do you currently work for pay, either at a regular job, consulting, or doing odd jobs? Anyone reporting yes was considered currently working versus not working. A second work status variable was defined as working full-time (i.e., greater than or equal to 35 hrs per week and greater than or equal to 11 months a year) or part-time compared with not working (reference). Data for work status were unavailable for six participants, reducing the total sample size to 3,069.

Independent variables. Race was determined by respondents' self-report as either Black (reference) or White. Race is used as a social, economic, and cultural construct, which often determines social identity, and it has been linked to access to societal rewards and resources in the United States (Williams, 1997).

Social factors. Social factors are measured as the amount of social support. This included a count of the number of relatives and/or friends participants reported feeling close to, at ease with, could talk to about private matters, and could call on for help.

Economic factors. SES included education, family income, and financial assets. Education was coded as less than 12 years of school completed (reference), equal to 12 years, and greater than 12 years. Family income was coded as less than US\$10,000 (reference), greater than or equal to US\$10,000 to less than US\$25,000, greater than or equal to US\$25,000 to less than US\$50,000, and greater than or equal to US\$50,000. Assets included owning a count of eight total assets: a home, money market account or certificates of deposit, savings bonds or treasury bills, investment property or housing other than where a respondent currently lives, business or farm, stock or stock mutual funds, individual retirement account (IRA) or a Keogh plan (i.e., a type of retirement plan for self-employed individuals and their employees), and other investments. SES-related resources included health insurance coverage and access to care. Health insurance coverage was defined as having Medicare and/or Medicaid as basic public health insurance (reference) compared with having supplemental insurance purchased from the federal government, a private agency, or provided through current or past employment. Access to care was defined as having no usual source of health care or using emergency rooms, public or hospital outpatient clinics, or other places of care (reference) compared with a health maintenance organization (HMO) or private doctor's office.

Health factors. Body mass index (BMI; height in kilograms/weight in meters²) categories included normal (less than 25 kg/m², reference), overweight (25 to less than 30 kg/m²), and obese (greater than or equal to 30 kg/m²). We created a count of 10 prevalent chronic conditions based on self-reports, medications, and/or clinical measurements, including all-cause cancer, coronary heart disease, peripheral arterial disease, clinical depression, type II diabetes, hypertension, pulmonary disease, osteoporosis, gastrointestinal disease, and osteoarthritis. The Health ABC physical performance battery is an objective, composite score based on respondents' ability to complete four tasks, including five repeated chair stands at a pace of one chair stand per second; a set of three standing balance tests—semi-tandem, full-tandem, and single-leg stands—with 30 s holding times for each; gait speed based on a usual 6 m walk; and a 6 m narrow walk for balance, with the latter two tasks at a pace of 2 m/s (Simonsick et al., 2001). Performance on each test was scored continuously, ranging from 0 to 1. Composite continuous scores ranged from 0 to 4, with higher scores indicating better objective physical functioning. In a distribution of the Health ABC performance score in Year 1, 38% of the cohort scored in the lowest half and 18% scored in the highest quartile.

Control variables. Sex (men [reference] or women), site (Memphis, Tennessee [reference] or Pittsburgh, Pennsylvania), age (continuous, 70 to 79 at baseline), and household size (a continuous count of the number of other

Table 1. Descriptive Statistics for All Measures Associated With Those Currently Working for Year 1 Total Sample and By Race and Sex.

Variables	Health ABC sample		p value	Working				p value
	Not working	Working		White men	Black men	White women	Black women	
<i>n</i>	2,323	746		36%	24%	19%	21%	
Memphis, TN, %	75.0% (1,159)	25.0% (386)	ns	37.1%	24.9%	18.7%	19.4%	ns
vs. Pittsburgh, PA, %	76.4% (1,164)	23.6% (360)		35.0%	22.2%	20.3%	22.5%	
Age, <i>M</i>	73.8	73.2	<.0001	73.4	73.2	72.9	72.9	ns
Household size, <i>M</i>	0.9	1.0	ns	1.0	1.3	0.7	1.0	<.0001
Education, %								
<12 years	76.2% (590)	23.4% (184)	ns	17.9%	44.0%	6.0%	32.1%	<.0001
12 years	77.8% (776)	22.2% (221)		29.0%	21.3%	26.2%	23.5%	
>12 years	73.6% (950)	26.4% (340)		50.6%	14.1%	22.4%	12.9%	
Family income, %								
<US\$10,000	78.5% (285)	21.5% (78)	<.0001	2.6%	33.3%	11.5%	52.6%	<.0001
≥US\$10,000-<US\$25,000	78.5% (823)	21.5% (225)		24.0%	32.0%	14.7%	29.3%	
US\$25,000-<US\$50,000	74.0% (632)	26.0% (222)		41.4%	20.3%	26.6%	11.7%	
≥US\$50,000	67.0% (290)	33.0% (143)		65.0%	14.7%	16.1%	4.2%	
Total number of assets, <i>M</i>	2.5	2.8		3.8	1.7	3.5	1.5	<.0001
HMO or private doctor access to care	76.2% (1,917)	23.8% (598)	ns	41.0%	18.4%	21.9%	18.7%	<.0001
vs. other or no usual place of care	73.3% (393)	26.7% (143)		15.4%	46.2%	8.4%	30.1%	
Medicare and supplemental insurance	75.6% (1,936)	24.4% (626)	ns	41.1%	18.5%	22.0%	18.4%	<.0001
vs. Medicare and/or Medicaid only	76.5% (385)	23.5% (118)		10.2%	50.0%	5.9%	33.9%	
Count of those you are close to, <i>M</i>	8.0	8.3		8.9	8.0	9.0	7.1	ns
Body mass index								
Normal (<25 kg/m ²)	77.7% (770)	22.3% (221)	ns	33.5%	27.2%	27.6%	11.8%	<.0001
Overweight (25 to <30 kg/m ²)	73.8% (957)	26.2% (339)		40.4%	20.1%	19.2%	20.4%	
Obese (≥30 kg/m ²)	76.2% (596)	23.8% (186)		31.2%	25.8%	10.2%	32.8%	
Count of prevalent chronic diseases, <i>M</i>	1.9	1.7		1.8	1.6	1.7	1.5	ns
Health ABC performance score, <i>M</i>	2.2	2.3		2.5	2.3	2.3	2.0	<.0001

Note. The *p* values are based on cross-tabulations (chi-square tests) and means (ANOVA tests). Row totals may not equal to 100% due to rounding error. Health ABC = Health, Aging, and Body Composition; HMO = health maintenance organization.

people living in participants' households besides themselves, ranging from 0 to 30) were included in all models.

Statistical Analyses

We examined descriptive statistics, including bivariate cross-tabulations with chi-square tests and means with ANOVA tests, for all measures associated with work status by race and sex (Table 1). At the multivariate level, we used logistic regression to examine social, economic, and health relationships with work status in sex-stratified models (Tables 2 and 3). We included stepwise models with dichotomous work status adjusted for the following: race, site, age, and household size (Model 1); adding SES and social support (Model 2); and adding BMI, the count of chronic conditions, and the Health ABC performance score (Model 3). We also used multinomial logistic regression to examine social, economic, and health relationships for full- and part-time workers compared with nonworkers in a sex-stratified, final model comparable with our logistic regression analyses in Model 3 (Tables 4 and 5). Analyses were sex-stratified because significant gender variations exist in working and retirement patterns in the United States (Federal Interagency Forum on Aging-Related Statistics, 2012; Flippen & Tienda, 2000). Tests of collinearity of the SES variables showed significant correlations ($p < .001$) between education and family income (.48) and count of assets (.45).

Results

Table 1 shows descriptive statistics for all measures associated with work status for Year 1 total sample and by race and sex. Twenty-four percent (746) of respondents were currently working. Five percent (160) of respondents worked full-time and 19% worked part-time (586), while 76% did not work (2,323). Of those working, 45% (332) were Black adults and 55% (414) were White adults. These percentages break down to 36% (268) White men, 24% (179) Black men, 19% (142) White women, and 21% (157) Black women. No significant racial differences existed between working versus not and full- or part-time versus not working. Among those working, the racial and sex distribution significantly differed by mean household size, education and family income, mean number of assets, having an HMO or private doctor compared with other or no usual place to access care, having Medicare and supplemental health insurance compared with Medicare and/or Medicaid only as health insurance, BMI, and mean Health ABC performance score ($p < .0001$).

Tables 2 and 3 show the relationship between social, economic, and health factors and working versus not working by sex. Initial racial differences in working among men were not significant. However, racial differences increased from Model 2 to 3. Our full model showed Black men had 57% greater odds of working (Model 3, odds ratio [OR] = 1.57, 95% confidence interval [CI] = [1.15, 2.17]). Men with greater than or

Table 2. Working Versus Not in Year 1 for Men, Health ABC Study, Logistic Regression, ORs, and 95% CI.

Characteristics	Model 1	Model 2	Model 3
	OR (95% CI)	OR (95% CI)	OR (95% CI)
Black vs. White	1.15 [0.91, 1.45]	1.46 [1.08, 1.97]*	1.57 [1.15, 2.17]**
Memphis vs. Pittsburgh site	1.18 [0.94, 1.47]	1.21 [0.95, 1.54]	1.23 [0.95, 1.57]
Age (continuous)	0.93 [0.89, 0.97]***	0.92 [0.88, 0.96]***	0.95 [0.90, 0.99]*
Household size (continuous)	0.97 [0.87, 1.07]	0.97 [0.87, 1.08]	0.93 [0.82, 1.06]
Education			
<12 years		reference	reference
12 years		1.23 [0.87, 1.74]	1.03 [0.71, 1.47]
>12 years		1.02 [0.72, 1.44]	0.88 [0.61, 1.26]
Family income			
<US\$10,000		reference	reference
≥US\$10,000 to <US\$25,000		0.96 [0.64, 1.44]	0.88 [0.58, 1.34]
US\$25,000 to <US\$50,000		1.16 [0.75, 1.79]	1.10 [0.71, 1.71]
≥US\$50,000		1.95 [1.20, 3.16]***	1.75 [1.07, 2.88]*
Count of the total number of assets		1.04 [0.96, 1.13]	1.05 [0.97, 1.14]
Other or no usual place vs. HMO or private doctor access to care		1.12 [0.81, 1.56]	1.06 [0.76, 1.49]
Medicare and/or Medicaid vs. Medicare and supplemental		1.06 [0.73, 1.54]	1.11 [0.76, 1.63]
Count of those you are close to		1.00 [0.99, 1.01]	1.00 [0.99, 1.01]
Body mass index			
Normal (<25 kg/m ²)			reference
Overweight (25 to <30 kg/m ²)			1.07 [0.81, 1.42]
Obese (≥30 kg/m ²)			1.14 [0.81, 1.61]
Count of prevalent chronic diseases			0.91 [0.83, 1.01]
Health ABC performance score			1.67 [1.27, 2.20]***

Note. Model 1: $n = 1,487$; Model 2: $n = 1,386$; Model 3: $n = 1,329$. A count of prevalent chronic diseases includes all-cause cancer, coronary heart disease, peripheral arterial disease, depression, diabetes (type II), hypertension, pulmonary disease, osteoporosis, gastrointestinal disease, and osteoarthritis. Health ABC = Health, Aging, and Body Composition; OR = odds ratio; CI = confidence interval; HMO = health maintenance organization.

* $p \leq .05$. ** $p \leq .01$. *** $p \leq .001$.

equal to US\$50,000 family income had 75% greater odds of working (OR = 1.75, 95% CI = [1.07, 2.88]). Men with higher Health ABC performance scores had 67% greater odds of working (OR = 1.67, 95% CI = [1.27, 2.20]).

Significant racial differences in working among women increased from Model 1 to 3, where Black women had 70% greater odds of working (OR = 1.70, 95% CI = [1.21, 2.40]). There were no significant findings for older working women having higher social and economic factors than those not working. Overweight women had 47% greater odds of working (OR = 1.47, 95% CI = [1.05, 2.05]). Also, women with higher counts of prevalent chronic diseases had 14% lower odds of working (OR = 0.86, 95% CI = [0.77, 0.96]).

Some results differed by sex in the stratified working versus not working models. We found racial differences in working were greater among women than men. One economic factor, higher income, was related to men working but not women. And, higher physical functioning related to working among men, while being overweight and having a lower number of chronic diseases related to working among women.

Tables 4 and 5 show the relationship between social, economic, and health factors and full- or part-time versus not working by sex. Black men had over 3 times greater odds of full-time working, OR = 3.25, beta (SE) = 1.18 (0.28)***. Men with family incomes greater than or equal to US\$50,000 had almost 3 times greater odds of full-time working, OR = 2.83, beta (SE) = 1.04 (0.44)*. Men with higher Health ABC performance scores had 2 times greater odds of full-time working, OR = 2.01, beta (SE) = 0.70 (0.26)**.

There were no significant racial differences in part-time versus not working for men. There were no significant findings about older part-time working men having higher social and economic factors. Men with higher Health ABC performance scores had 58% greater odds of part-time working, OR = 1.58, beta (SE) = 0.46 (0.15)**.

There were no significant racial differences in full-time versus not working for women. Women with family incomes greater than or equal to US\$50,000 had over 5 times greater odds of full-time working, OR = 5.37, beta (SE) = 1.68 (0.71)*. Women with higher counts of prevalent chronic diseases had 32% lower odds of full-time working, OR = 0.68, beta (SE) = -0.38 (0.17)*.

Table 3. Working Versus Not in Year 1 for Women, Health ABC Study, Logistic Regression, ORs, and 95% CI.

Characteristics	Model 1	Model 2	Model 3
	OR (95% CI)	OR (95% CI)	OR (95% CI)
Black vs. White	1.32 [1.02, 1.70]*	1.71 [1.23, 2.37]**	1.70 [1.21, 2.40]**
Memphis vs. Pittsburgh site	0.96 [0.75, 1.24]	1.02 [0.77, 1.34]	1.02 [0.77, 1.36]
Age (continuous)	0.91 [0.87, 0.96]***	0.91 [0.87, 0.96]***	0.91 [0.86, 0.96]***
Household size (continuous)	1.02 [0.89, 1.16]	1.02 [0.88, 1.17]	1.01 [0.88, 1.17]
Education			
<12 years		reference	reference
12 years		0.84 [0.57, 1.22]	0.82 [0.55, 1.21]
>12 years		0.88 [0.58, 1.32]	0.84 [0.55, 1.29]
Family income			
<US\$10,000		reference	reference
≥US\$10,000 to <US\$25,000		0.99 [0.69, 1.42]	0.92 [0.64, 1.34]
US\$25,000 to <US\$50,000		1.45 [0.95, 2.22]	1.38 [0.89, 2.13]
≥US\$50,000		1.28 [0.71, 2.30]	1.19 [0.65, 2.16]
Count of the total number of assets		1.05 [0.95, 1.15]	1.02 [0.93, 1.13]
Other or no usual place vs. HMO or private doctor access to care		1.32 [0.92, 1.89]	1.29 [0.89, 1.87]
Medicare and/or Medicaid vs. Medicare and supplemental		0.74 [0.48, 1.12]	0.72 [0.47, 1.10]
Count of those you are close to		1.01 [0.99, 1.03]	1.01 [0.99, 1.03]
Body mass index			
Normal (<25 kg/m ²)			reference
Overweight (25 to <30 kg/m ²)			1.47 [1.05, 2.05]*
Obese (≥30 kg/m ²)			1.03 [0.69, 1.54]
Count of prevalent chronic diseases			0.86 [0.77, 0.96]**
Health ABC performance score			1.23 [0.91, 1.66]

Note. Model 1: $n = 1,572$; Model 2: $n = 1,442$; Model 3: $n = 1,386$. A count of prevalent chronic diseases includes all-cause cancer, coronary heart disease, peripheral arterial disease, depression, diabetes (type II), hypertension, pulmonary disease, osteoporosis, gastrointestinal disease, and osteoarthritis. Health ABC = Health, Aging, and Body Composition; OR = odds ratio; CI = confidence interval; HMO = health maintenance organization.

* $p \leq .05$. ** $p \leq .01$. *** $p \leq .001$.

Black women had 75% greater odds of part-time working, OR = 1.75, beta (*SE*) = 0.56 (0.18)**. There were no significant findings for older part-time working women having higher social and economic factors than those not working. Overweight women had 46% greater odds of part-time working, OR = 1.46, beta (*SE*) = 0.38 (0.18)*. Also, women with higher counts of prevalent chronic diseases had 12% lower odds of part-time working, OR = 0.88, beta (*SE*) = -0.13 (0.06)*.

Some results differed by sex in the stratified full- and part-time working versus not working models. Racial differences in working existed among full-time working men and part-time working women only. Similar among men and women, higher income was the only social or economic factor related to working full-time, but none of these factors related to working part-time. And, higher physical functioning related to full- and part-time working among men, while having a lower number of chronic diseases related to full- and part-time working among women.

Discussion

Considerable variation in the health of Health ABC older adults existed by race, largely due to SES

disadvantages (Fuller-Thomson, Nuru-Jeter, Minkler, & Guralnik, 2009; Peek et al., 1997; Thorpe et al., 2011), and these differences related to work status variation by race. Our results supported our first hypothesis, where well-functioning, older Black men and women were significantly more likely to work than their White counterparts. Also, racial differences in working versus not working were greater among women than men. These findings contrast general trends in the literature (Bound et al., 1996; Burr & Mutchler, 2007; Flippen & Tienda, 2000; Green, 2005). However, when considering full- and part-time work, our findings were more consistent with the literature, where racial differences were largest among men working full-time.

Our second hypothesis was partially supported. Working was significantly related to having higher family income among full-time workers, but it was not related to social factors or any other economic factors. This finding aligns with a productive or successful aging perspective, where working and other productive activities are important parts of well-functioning older adults' continued engagement in life (Hinterlong, 2008; Hinterlong, Morrow-Howell, & Rozario, 2007).

Table 4. Full-Time or Part-Time Versus Not Working in Year 1 for Men, Health ABC Study, Multinomial Logistic Regression, Full Model, Betas (SEs), and OR.

Characteristics	Full-time		Part-time	
	betas (SE)	OR	betas (SE)	OR
Black vs. White	1.18 (0.28)***	3.25***	0.19 (0.18)	1.21
Memphis vs. Pittsburgh site	0.39 (0.22)	1.48	0.13 (0.14)	1.14
Age (continuous)	-0.12 (0.04)**	0.89**	-0.04 (0.02)	0.96
Household size (continuous)	-0.09 (0.12)	0.91	-0.07 (0.07)	0.93
Education				
<12 years	reference		reference	
12 years	-0.10 (0.36)	0.90	0.04 (0.20)	1.04
>12 years	0.06 (0.33)	1.06	-0.21 (0.20)	0.81
Family income				
<US\$10,000	reference		reference	
≥US\$10,000 to <US\$25,000	-0.59 (0.43)	0.55	-0.03 (0.23)	0.97
US\$25,000 to <US\$50,000	0.15 (0.42)	1.16	0.06 (0.25)	1.06
≥US\$50,000	1.04 (0.44)*	2.83*	0.32 (0.28)	1.38
Count of the total number of assets	0.08 (0.07)	1.08	0.04 (0.05)	1.04
Other or no usual place vs. HMO or private doctor access to care	0.19 (0.31)	1.21	0.03 (0.19)	1.03
Medicare and/or Medicaid vs. Medicare and supplemental	-0.60 (0.41)	0.55	0.31 (0.21)	1.36
Count of those you are close to	0.01 (0.01)	1.01	-0.01 (0.01)	0.99
Body mass index				
Normal (<25 kg/m ²)	reference		reference	
Overweight (25 to <30 kg/m ²)	-0.10 (0.25)	0.90	0.12 (0.16)	1.13
Obese (≥30 kg/m ²)	0.32 (0.29)	1.38	0.05 (0.20)	1.05
Count of prevalent chronic diseases	-0.07 (0.09)	0.93	-0.09 (0.06)	0.91
Health ABC performance score	0.70 (0.26)**	2.01**	0.46 (0.15)**	1.58**

Note. Full Model (Model 3 in Logistic Regression): $n = 1,329$. A count of prevalent chronic diseases includes all-cause cancer, coronary heart disease, peripheral arterial disease, depression, diabetes (type II), hypertension, pulmonary disease, osteoporosis, gastrointestinal disease, and osteoarthritis. Health ABC = Health, Aging, and Body Composition; OR = odds ratio; HMO = health maintenance organization.

* $p \leq .05$. ** $p \leq .01$. *** $p \leq .001$.

Our third hypothesis was partially supported. Higher Health ABC performance scores for men and a lower count of prevalent chronic diseases for women were significantly related to full- and part-time working, supporting a productive or successful aging perspective. These results are consistent with other literature (Houston, Cai, & Stevens, 2009; Houston, Stevens, Cai, & Morey, 2005). But, in contrast, being overweight was significantly related to part-time working among women.

To explain this finding, we sought to understand if the literature generally supports a trend of overweight women being less likely to work full-time than normal weight women. The literature clearly shows a gender and weight bias in hiring (Nickson, Timming, Re, & Perrett, 2016), wages (Caliendo & Gehrsitz, 2016), and not working related to early retirement and disability (Renna & Thakur, 2010). Nickson et al. (2016), in an experiment with a largely White sample of young adults, using normal weight and heavier facial images of women and men,¹ found that people with heavier faces were more stigmatized and experienced lower hireability than people with normal weight faces. In addition, perceived weight differences associated with hiring

were greater in women's facial assessments. Using a German household panel study, Caliendo and Gehrsitz (2016) showed women's wages peaked at a BMI of around 21.5 kg/m², but afterward, wages decreased as body weight increased; however, lower weight men were subjected to lower wages. Renna and Thakur (2010) found that obesity increased the likelihood of not working due to an early retirement and incidence of disability among older adult men and women, but the probabilities of not working for each of these reasons were larger for older women. Thus, based on this research, overweight and obese women may try for full-time employment but may not be successful due to either labor market discrimination or health difficulties. Both scenarios may lead to overweight and obese women's higher representation in part-time rather than full-time employment.

In addition, we considered the role of race in addressing this question as our multivariate and descriptive analyses show Black women were significantly more likely to work part-time and be overweight or obese compared with White women. Contrary to expectations that being overweight generally relates to poorer health,

Table 5. Full-Time or Part-Time Versus Not Working in Year 1 for Women, Health ABC Study, Multinomial Logistic Regression, Full Model, Betas (SEs), and OR.

Characteristics	Full-time		Part-time	
	betas (SE)	OR	betas (SE)	OR
Black vs. White	0.22 (0.45)	1.25	0.56 (0.18)**	1.75**
Memphis vs. Pittsburgh site	0.32 (0.36)	1.38	-0.02 (0.15)	0.98
Age (continuous)	-0.11 (0.07)	0.90	-0.09 (0.03)**	0.91**
Household size (continuous)	0.10 (0.19)	1.11	0.00 (0.08)	1.00
Education				
<12 years	reference		reference	
12 years	-0.17 (0.62)	0.84	-0.20 (0.21)	0.82
>12 years	-0.02 (0.64)	0.98	-0.20 (0.23)	0.82
Family income				
<US\$10,000	reference		reference	
≥US\$10,000 to <US\$25,000	-0.09 (0.64)	0.91	-0.09 (0.20)	0.91
US\$25,000 to <US\$50,000	1.13 (0.63)	3.10	0.21 (0.23)	1.23
≥US\$50,000	1.68 (0.71)*	5.37*	-0.23 (0.35)	0.79
Count of the total number of assets	0.11 (0.12)	1.12	0.01 (0.05)	1.01
Other or no usual place vs. HMO or private doctor access to care	0.55 (0.47)	1.73	0.21 (0.20)	1.23
Medicare and/or Medicaid vs. Medicare and Supplemental	0.30 (0.59)	1.35	-0.40 (0.23)	0.67
Count of those you are close to	-0.01 (0.03)	0.99	0.01 (0.01)	1.01
Body mass index				
Normal (<25 kg/m ²)	reference		reference	
Overweight (25 to <30 kg/m ²)	0.49 (0.38)	1.63	0.38 (0.18)*	1.46*
Obese (≥30 kg/m ²)	-0.96 (0.68)	0.38	0.12 (0.21)	1.13
Count of prevalent chronic diseases	-0.38 (0.17)*	0.68*	-0.13 (0.06)*	0.88*
Health ABC performance score	-0.20 (0.37)	0.82	0.27 (0.16)	1.31

Note. Full Model (Model 3 in Logistic Regression): $n = 1,386$. A count of prevalent chronic diseases includes all-cause cancer, coronary heart disease, peripheral arterial disease, depression, diabetes (type II), hypertension, pulmonary disease, osteoporosis, gastrointestinal disease, and osteoarthritis. Health ABC = Health, Aging, and Body Composition; OR = odds ratio; HMO = health maintenance organization.

* $p \leq .05$. ** $p \leq .01$. *** $p \leq .001$.

one study examining a sample of all White participants found lower relative risks for all-cause and cardiovascular mortality related to excess BMI in older compared with younger adults (Stevens, Cai, et al., 1998). Another study found that higher BMI was a less important risk factor for mortality in Black compared with White women with the same educational backgrounds (Stevens, Plankey, et al., 1998). These studies suggest that being overweight, particularly for Black women in the Health ABC cohort, may not be as detrimental to older women's health. Perhaps consistent with the literature showing labor market discrimination toward women of higher BMI, Burr and Mutchler (2007) suggested that a large portion of part-time employment among older Black women is attributed to a pattern of labor force attachment across the life course, rather than a voluntary strategic plan to gradually exit the labor force. However, we do not know the direction of causality between being overweight and working in the Health ABC study.

Research from the Atherosclerosis Risk in Communities (ARIC) cohort study found similar patterns for the role of higher BMI in young and middle-aged adulthood related to early retirement among African

Americans. Houston et al. (2009) found that being overweight or obese at age 25 (i.e., young adulthood) was related to early retirement before age 65 among African American women and men (Houston et al., 2009). In addition, obesity between ages 45 and 55 (i.e., middle-aged) related to African Americans' early retirement for health reasons. Houston et al.'s (2005) earlier findings with the ARIC study give some insight about the health reasons that lead to early retirement. Obesity in young adulthood and large weight gain (i.e., greater than 30 lbs.) between young to middle-aged adulthood were related to higher odds of mild and severe functional limitations, activities of daily living, and instrumental activities of daily living impairment in later adulthood among White and African American women and men. Findings from these studies suggest that possible pathways between obesity and working exist through lower SES and earlier onset of chronic conditions and disability, possibly leading to labor force exits at younger ages.

To better understand if SES moderates the relationship between race and working, we ran additional race-stratified, logistic regression analyses for working versus not working (table not shown). We found the total

Table 6. Proportion of Older Adults Aged 70 to 79 Working by Race/Ethnicity and Sex in the HRS and Health ABC Studies.

	HRS 1998		Health ABC 1997-1998	
	<i>n</i> = 4,986	<i>p</i>	<i>n</i> = 3,069	<i>p</i>
Total	14.7		24.3 (746)	
Women	10.4	<.0001	19.1 (301)	.000
Men	20.5		29.9 (445)	
Race/Ethnicity				
White	15.4	<.0001	23.1 (414)	<i>ns</i>
Black	11.3		26.0 (332)	
Hispanic	7.5			
Other	16.6			
Women				
White	10.8	<.0001	17.0 (145)	.023
Black	9.4		21.5 (156)	
Hispanic	4.1			
Other	9.5			
Men				
White	21.4	<.0001	28.7 (269)	<i>ns</i>
Black	14.1		31.9 (176)	
Hispanic	12.0			
Other	23.9			

Source. National Institute on Aging, Laboratory of Epidemiology and Population Science; Health, Aging, and Body Composition Study (1997). University of Michigan, Institute for Social Research, Health and Retirement Study (1998).

Note. HRS data are nationally weighted, but Health ABC data are regional and unweighted. The *p* values are based on cross-tabulations (chi-square tests). HRS = Health and Retirement Survey; Health ABC = Health, Aging, and Body Composition.

number of assets (OR = 1.09, 95% CI = [1.01, 1.18]) was significant for older White adults working. Whereas for older Black adults working, family income greater than or equal to US\$50,000 (OR = 3.26, 95% CI = [1.59, 6.69]) was significant. Thus, SES moderates the relationship between race and working through different measures, but working for older White and Black adults was related to being financially better off.

To give readers some context to better understand our regional, well-functioning sample results compared to a well-known, random, nationally representative sample, we ran descriptive cross-tabulations with chi-square tests for comparable data by age group, year, race, and sex in the weighted Health and Retirement Survey (HRS; Table 6). Well-functioning, older adults in Health ABC were more likely to work than their counterparts in the HRS (24.3% vs. 14.7%). Given the higher percentages of workers in Health ABC, it is possible that the higher functioning levels of Health ABC participants contributed to their higher working levels. But, this hypothesis must be tested with longitudinal data.

Future research could longitudinally examine if race, social, economic, and health factors are predictive of work status among well-functioning older adults. Questions on work status are asked in each year of the Health ABC

study, for the entire cohort, up to Year 14 (except for Years 5 and 7). By Year 4, 22.6% (441/1,952) of the sample was still working. Descriptive working trends for Year 1 and 4 were higher than comparable national trends for those aged 70+ from the 1990s to 2011 and in 2015 (Bureau of Labor Statistics, 2016; Federal Interagency Forum on Aging-Related Statistics, 2012). Longitudinal data would also allow us to examine if perceived economic need drives working for some older adults. Beyond our prior objective economic measures, we could include subjective income adequacy to address if older adults have enough money to meet their needs or if their money is unable to meet their needs by the end of the month. Thus, we plan to do multivariate analysis to examine changes in work status by race over time.

This research has some limitations. First, as our analysis used a social selection perspective (Ross & Mirowsky, 1995) with cross-sectional data, we could not draw causal conclusions. However, one study found the impact of health on economic status increased with aging over the life course, supporting more of a social selection framework (Smith, 1998). Our future research with Health ABC will examine if (a) older, well-functioning Black adults are consistently more likely to work over time, and (b) racial differences in health are primarily responsible for racial differences in working over time? Second, Health ABC is based on older adults in two cities in the United States, which may not generalize to a national population of older adults. Third, our definition of older adults working may not equal to those who are employed in the labor force. Health ABC older adults could work for pay at home, in an informal labor market. Fourth, we do not know if Health ABC older adults are currently working in the same jobs they had during most of their careers or not; in semi-retired “bridge” jobs prior to later retirement (Cahill, Giandrea, & Quinn, 2006); and/or different jobs or occupations after previously retiring and returning to work. Finally, we only had access to the number of assets in the Health ABC study, instead of the estimated value of assets to give a fuller understanding of the median wealth gap between Black and White families in the United States (Federal et al., 2012). Wealth could be a reason why older adults choose to work or not, but this understanding cannot be captured by counting the number of assets. But, the strengths of Health ABC are its well-functioning, older adult cohort, with a large sample of Black adults, and greater reliability in health outcomes given the combination of clinical, survey, and medication data used.

Employment and chronic diseases are important research areas as older adults are living longer, with fewer years of disability (Freedman et al., 2002), and some return to work in part-time jobs after retirement (Cahill, Giandrea, & Quinn, 2011). But, the general public in the United States has concerns about whether older adults will continue to productively contribute to our society, where working longer could decrease the growing costs for Medicare and Social Security (Binstock, 2010). The policy implication of this research is that our

society should pro-actively invest in older adults' continued health and productive activities, as a potential solution to reduce the growing costs for social safety net programs targeting older adults. The U.S. Department of Labor's Senior Community Service Employment Program (SCSEP) pro-actively invests in low-income, older adults' employment. Almost half of the participants in SCSEP's enrollment are racial and ethnic minorities, with research showing no minority disadvantage in employment placement (Washko, Schack, Goff, & Pudlin, 2011). SCSEP participants perceive improvements in mental health, empowerment, self-worth, and enhanced social networks and support (Aday & Kehoe, 2008). However, this program should also focus on maintaining participants' physical health. These long-term dual foci may reduce reliance on Medicare, Medicaid, Social Security, and families' finances, increasing the numbers of healthy older adults willing to extend their work lives. Increasing the labor force participation of older adults could also increase the United States's gross domestic product and benefit national wealth (Cummins, Taylor, & Kunkel, 2015).

While we believe that older adults' continued employment has economic and health benefits, we acknowledge a few difficulties with this assertion. First, longer labor force participation may not be feasible for older Black adults, who have shorter life expectancies and historically have worked more physically demanding jobs (Bound et al., 1996; Bulatao & Anderson, 2004; Green, 2005). Second, our study does not provide evidence for improved health outcomes. To adequately address if prolonged employment leads to improvements in older adults' mental, physical, and social health, that is, a social causation perspective, will require longitudinal research examining the relationship between working, race, and health outcomes. Finally, in a recovering economy, the SCSEP program, authorized by the Older Americans Act, remains in jeopardy of funding losses with fewer older adults gaining employment.

In summary, older Black adults were more likely to work than White adults, specifically for full-time men and part-time women only. Higher family income and Health ABC performance scores were related to men working, while the count of prevalent chronic diseases and being overweight were related to women working. In future research, we hope to determine if these trends are persistent with longitudinal Health ABC data.

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Note

1. Normal weight and heavier facial prototype images were created digitally by averaging 10 Caucasian faces of individuals from a publically available database for the desired body mass index (BMI) size (Nickson, Timming, Re, & Perrett, 2016). The lower BMI or normal weight female had a BMI of 17.85 kg/m². The higher BMI or heavier female had a BMI of 24.06 kg/m². The lower BMI or normal weight male had a BMI of 22.19 kg/m². The higher BMI or heavier male had a BMI of 26.47 kg/m². Then, the normal weight and heavier faces for each sex were matched for age, to ensure that the shape transformed faces would be associated with BMI changes and not age differences by study participants. Precedent for this method was established by Re and Perrett (2014).

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