

The Impact of Psychosocial Factors in Explaining Race Disparities in Health Outcomes among Older Americans.

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Introduction

Previous studies have highlighted the role of psychosocial factors in explaining the emergence and persistence of disease processes (Adler and Snibbe, 2003; Macleod and Davey Smith, 2003; Taylor and Seeman, 1999). Psychosocial indicators have been instrumental in our understanding of the maturation of physical health conditions such as hypertension (Levenstein et al, 2001) as well as mental health conditions such as depression (Coryell et al, 1993; Bruce, 2002). With the recent incorporation of human development-based factors (e.g. personality, negative and positive affect) in demographic and epidemiologic research (Macleod and Davey Smith, 2003); the implementation of psychosocial measures in health disparities research deserves additional attention.

Very few studies have examined the role psychosocial factors play in race disparities health research. Past studies typically focus on the effects of discrimination and chronic stressors within minority populations (Bosworth et al, 2006; Clark et al, 1999; Williams et al, 2003). Given the lack of biological data in population-based surveys, many of these studies often rely solely on self-reports of health outcomes, which may lead to conservative estimates of the true impact of psychosocial factors on race differences in health. The following study attempts to add to this literature by examining the role of four dimensions of psychosocial processes—cynical hostility, pessimism, sense of control, and social support—in explaining race differences in both physical and

mental health outcomes using biological markers. Specifically, the primary objectives of this study are as follows:

- Are there race differences in health based on key physical (biological markers) and psychological (self-reports of depressive symptoms) health outcomes?
- What role do psychosocial processes play in explaining these potential race differences?

Methods and Preliminary Results

The impact of psychosocial factors in explaining race differences in health outcomes are derived from the 2006 wave of the Health and Retirement Study. Initially started in 1992, this biennial, nationally representative survey of the 50 and older U.S. population provides a wealth of information on the health, occupational, and financial status of individuals entering the later stages of life. The 2006 wave of this study is particularly important to this research question, in that it includes biological markers that are associated with major chronic conditions such as diabetes and hypertension (Crimmins et al, forthcoming).

I initially examine the age-race patterns of four biomarkers found in the survey. These biomarkers included: systolic blood pressure (SBP), diastolic blood pressure (DBP), glycated hemoglobin (HbA_{1c}), and body mass index (BMI). An abbreviated version of the Centers for Epidemiologic Studies Depression Scale (CES-D) was used as the (non-clinical) marker of mental health. Figures 1-5 illustrate the race differences by age group for each of the health outcomes. Blacks and Hispanics have significantly

higher SBP than their white counterparts for each age group (Figure 1). For all groups, however, the mean SBP increases with age. Diastolic blood pressure is consistently higher for blacks than those of whites and Hispanics across the three age groups. In fact, there is little variation in DBP for whites and Hispanics until ages 75 and older, where at this point whites report a lower mean DBP (Figure 2).

Considerable discrepancies in glycated hemoglobin are found between whites and the two minority groups (Figure 3). Hispanics report the highest mean of HbA1c across all age groups. Blacks also report a consistently high mean for glycated hemoglobin. For whites, HbA1c increases with age, yet remains significantly lower than those of blacks and Hispanics. Figure 4 illustrates differences in CES-D scores. Although each group exhibits a decline in scores around ages 65 to 74 and an increase after age 75, Hispanics and blacks report higher levels of depressive symptoms than whites. Figure 5 illustrates the average BMI for each race by age. For the most part, younger individuals in the sample (53 to 64) report relatively high BMI averages, with blacks being slightly heavier than Hispanics and whites. For the 65 to 74 age group, the average BMI increases slightly for blacks, decreases for Hispanics, and remains the same for whites. Each race group shows a precipitous decline in the oldest group, where both blacks and Hispanics report lower BMI scores than whites.

Four key measures comprise the psychosocial measures utilized for this study. In table 1, I use univariate analysis of variance (ANOVA) and two-sample t-tests to compare the differences between the means and percentages of the psychosocial measures by race/ethnicity. The cynical hostility composite score consists of four items derived from the Cook-Medley Hostility Inventory, a well-established scale described

elsewhere (Cook and Medley, 1954; Costa et al, 1986). Each question contains a 6-item response set (strongly disagree, somewhat disagree, slightly disagree, slightly agree, somewhat agree, strongly agree) that taps into possible connections between hostility and poor health outcomes. I create an index by averaging the scores across all items, where the higher the score, the greater the hostility. For this sample, blacks and Hispanics, on average, report a level of hostility than their white counterparts.

Similarly, I create an index evaluating dispositional pessimism. I compile and average the three, 6-item response questions in a fashion similar to that of cynical hostility. Respondents were asked to state whether they agree or disagree on the following statements:

- “If something can go wrong for me it will.”
- “I hardly ever expect things to go my way.”
- “I rarely count on good things happening to me.”

Higher index scores indicate a greater pessimistic view on life. Hispanics report the highest level of pessimistic views in this sample. Both blacks and Hispanics report statistically higher average scores on the pessimism scale.

Sense of control is measured by two indices-constraints and mastery. The constraints index measures the degree to which a person feels that his or her life’s events are not controllable. In turn, the mastery index evaluates how much a person feels that he or she has control over their lives. Each index consists of five questions using the 6 response items ranging from strongly disagree to strongly agree. Table 1 shows the dichotomy between whites and both minority groups on each index. While, on average,

blacks and Hispanics report a higher mean score on the constraint index than whites, these two groups also report a significantly lower sense of mastery.

The extent to which respondents receive positive social support is also included in this study. When applicable, sample participants were asked to assess the quality of the social support they receive from their spouse/partner, children, other family members, and friends. Respondents were asked to evaluate, by answering five questions, whether each social tie provided a lot, some, a little, or no social support. Therefore, the higher the index scores, the less likely that a given social tie provides positive social support. Preliminary results show that whites, on average, report more social support from spouses than both blacks and Hispanics, which may be a reflection of whites' higher marriage percentages in the sample (see table 2). Blacks and Hispanics appear to receive more support from other family members, whereas Hispanics seem least likely to receive positive support from friends.

In conclusion, race differences in health remain one of the most troubling health issues in our world today. The recent implementation of biological markers in population-based surveys such as the Health and Retirement Study provides an excellent tool for deciphering the interplay between social and biological mechanisms and its impact on health inequalities. This study attempts to add to this literature by examining the impact of psychosocial measures on race differences in both physical and mental health. The aforementioned figures and tables provide a basic snapshot of the health disparities and the basic demographic characteristics of the sample. Additional analyses will incorporate a series of logistic regression analyses combining psychosocial measures

with socio-demographic correlates to determine which factors significantly contribute to the disparities exhibited in the four health outcomes.

Selected References

- Adler, N.E., Snibbe, A.C. 2003. The role of psychosocial processes in explaining the gradient between socioeconomic status and health. *Current Directions in Psychological Science* 12, 119-123.
- Bosworth, H., Dudley, T., Olsen, M., Voils, C., Powers, B., Goldstein, M., Oddone, E. 2006. Racial differences in blood pressure control: potential explanatory factors. *The American Journal of Medicine* 119, 70.e9-70.e15.
- Bruce, M.L. 2002. Psychosocial risk factors for depressive disorders in late life. *Biological Psychiatry* 52, 175-184.
- Clark R., Anderson N.B., Clark V.R., Williams D.R. 1999. Racism as a stressor for African Americans: A biopsychosocial model. *American Psychologist* 54, 805-816.
- Cook, W.W., Medley, D.M. 1954. Proposed hostility and pharisaic-virtue scales for the MMPI. *The Journal of Applied Psychology* 38(6), 414-418.
- Coryell W., Scheftner W., Keller M., Endicott J., Maser J., Klerman G.L. 1993. The enduring psychosocial consequences of mania and depression. *American Journal of Psychiatry* 150, 720-727.
- Costa, P.T., Zonderman, A.B., McCrae, R.R., Williams, R.B. 1986. Cynicism and paranoid alienation in the Cook and Medley HO Scale. *Psychosomatic Medicine* 48(3/4), 283-285.
- Crimmins, E., Vasunilashorn, S., Kim, J.K., Alley, D. forthcoming. Biomarkers related to aging in human populations. *Advances in Clinical Chemistry*.
- Eckhardt, C., Norlander, B., Deffenbacher, J. 2004. The assessment of anger and hostility: A critical review. *Aggression and Violent Behavior* 9, 17-43.
- Lachman, M.E., Weaver, S.L. 1998. The sense of control as a moderator of social class differences in health and well-being. *Journal of Personality and Social Psychology* 74(3), 763-773.
- Levenstein S, Smith MW, Kaplan GA. 2001. Psychosocial predictors of hypertension in men and women. *Archives of Internal Medicine* 161, 1341-1346.

- Macleod, J., Davey Smith, G. 2003. Psychosocial factors and public health: a suitable case for treatment? *Journal of Epidemiology & Community Health* 57, 565-570.
- Pearlin, L.I., Schooler, C. 1978. The structure of coping. *Journal of Health and Social Behavior* 19(1), 2-21.
- Peterson, C. 2000. The future of optimism. *American Psychologist* 55(1), 44-45.
- Scheier, M.F., Carver, C.S., Bridges, M.W. 1994. Distinguishing optimism from neuroticism (and trait anxiety, self-mastery, and self-esteem): A reevaluation of the Life Orientation Test. *Journal of Personality and Social Psychology* 67(6), 1063-1078.
- Taylor, S.E., Seeman, T.E. 1999. Psychosocial resources and the SES-Health Relationship. *Annals of the New York Academy of Sciences* 896, 210-225.
- Taylor, S.E., Kemeny, M.E., Reed, G.M., Bower, J.E., Gruenewald, T.L. 2000.
- Williams, D.R., Neighbors, H.W., Jackson, J.S. 2003. Racial/Ethnic Discrimination and Health: Findings from Community Studies. *American Journal of Public Health* 93, 200-208.

Figure1. Mean systolic blood pressure (sbp) by race and age group.

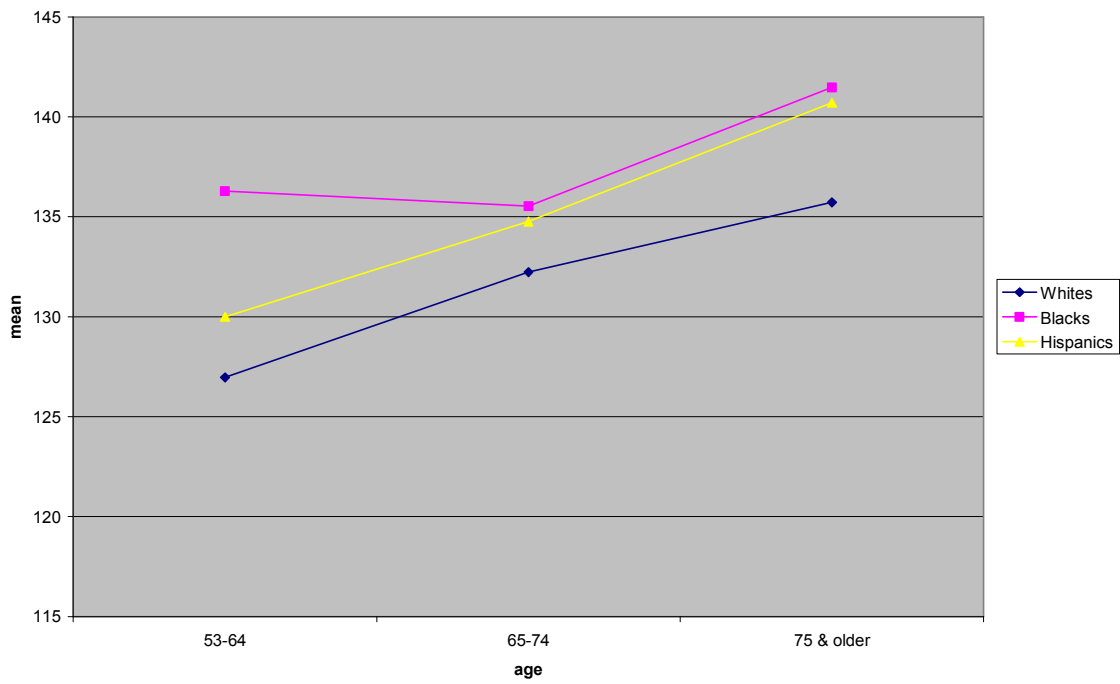


Figure 2. Mean diastolic blood pressure (dbp) by race and age group

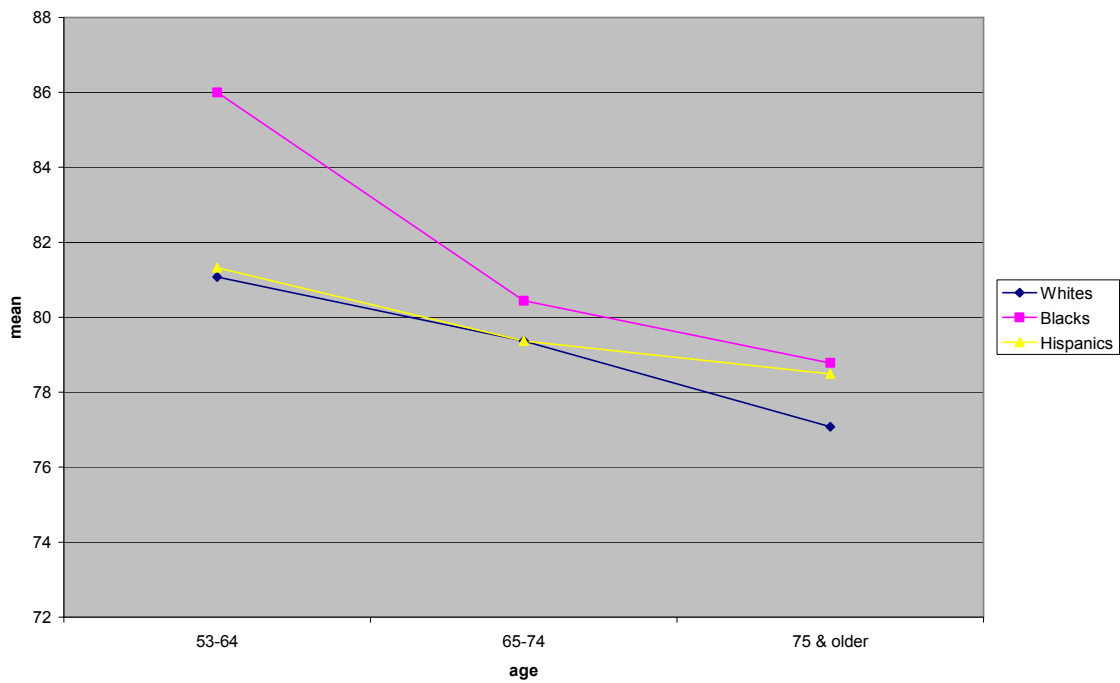


Figure 3. Mean glyated hemoglobin (HbA1c) by race and age group.

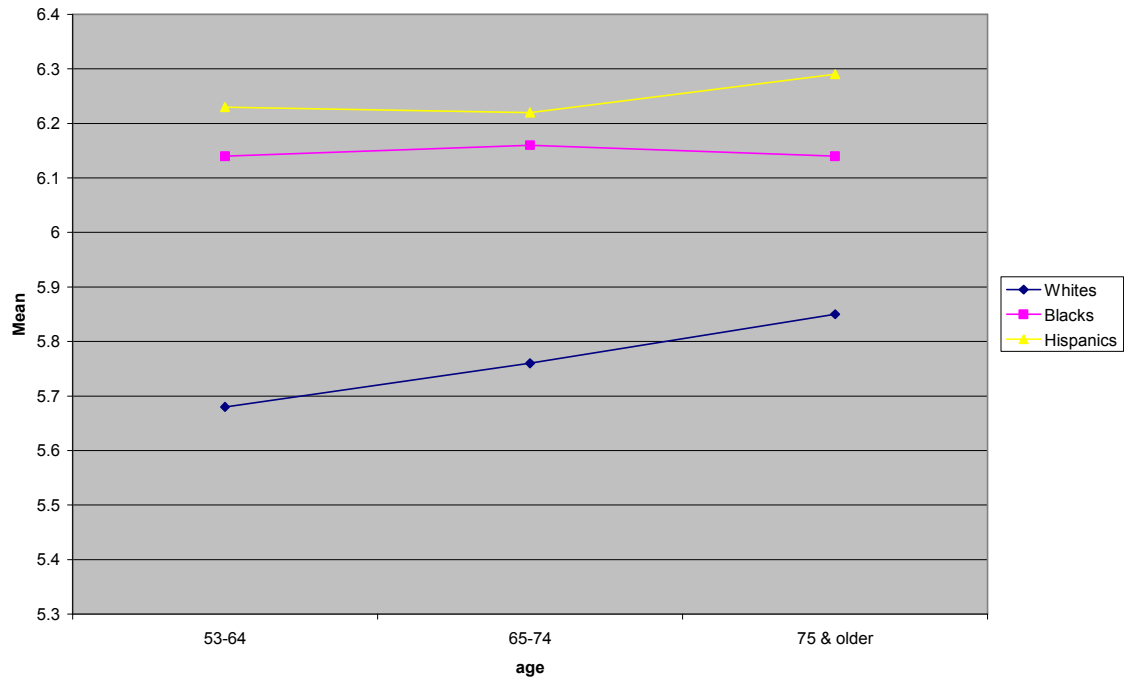


Figure 4. Mean self-reports of CES-D Depression Scores (0-8) by race and age group

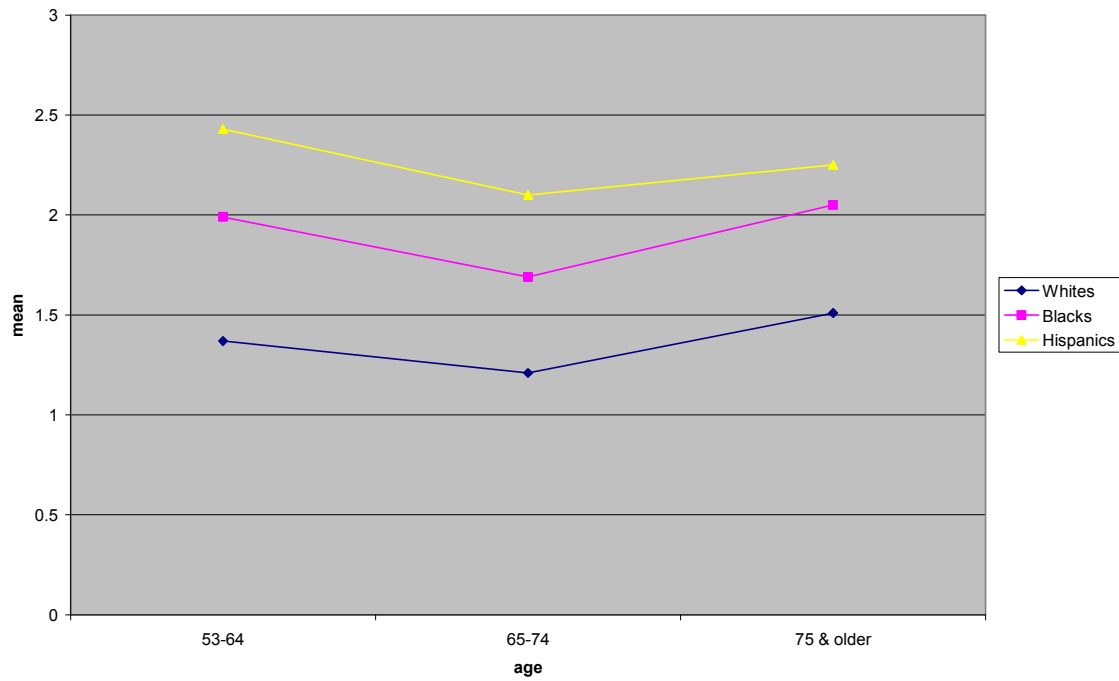


Table 1. Race Differences in Psychosocial Measures, Means Scores^{ab}

		White	Black	Hispanic
		(ref)		
Cynical Hostility		2.86	3.37***	3.51***
	(Range 1-6)			
Pessimism				
	(Range 1-6)	2.54	2.92***	3.35***
Sense of Control	(1-6)			
	Index of Constraints	2.20	2.41***	2.67***
	Index of Mastery	4.75	4.66*	4.60**
Social Support of:	(1-4)			
	Spouse/Partner	1.49	1.79***	1.69***
	Children	1.73	1.73	1.69
	Family	2.17	1.93***	1.97***
	Friends	1.97	1.89**	2.09***

^areference group is white ^b***p<0.001; **p<0.01; *p<0.05

Table 2. Means & Percentages of Key Covariates by Race for 2006 HRS Sample^{ab}

		White	Black	Hispanic
Demographic Characteristics				
Mean Age		66.74	64.71***	64.02***
Gender	Males	46.26	40.41***	44.51
	Females	53.74	59.59***	55.49
% Marital	Married	65.68	40.85***	62.02**
	Separated/Divorced	13.20	26.88***	17.65***
	Widowed	17.52	23.80***	15.45*
	Never Married	3.45	8.08***	4.61*
SES-Related Characteristics				
% Educ.	Less than 12 years	14.73	34.00***	56.58***
	12 years	34.51	30.10***	20.01***
	More than 12 years	50.76	35.90***	23.42***
Household Income, avg.		\$81,452	\$40,761***	\$40,684***
% Employment	Working	39.51	36.81*	38.05
	Retired	42.30	33.67***	23.96***
	Other	18.19	29.52***	38.00***
Health & Behavioral				
% Diabetes Medication		12.98	25.81***	24.32***
% Hypertension Medication		46.96	63.77***	45.72
Activities of Daily Living (ADLs)		0.26	0.49***	0.46***
Instrumental Activities (IADLs)		0.11	0.18***	0.18***
% Heavy Drinking		5.25	7.81*	13.09***
% Currently Smoking		24.28	32.41***	26.44
Physical Inactivity	No Vigor.	58.51	66.47***	68.20***
	No Moderate	19.27	27.97***	25.46***
	No Mild	9.42	14.01***	15.07***
Health Care Use & Availability				
% Doctor's Visit		94.95	93.13***	90.41***
% Insured	Medicaid	4.16	18.43***	21.59***
	Medicare	52.54	47.67***	42.98***
	Military/Government	5.31	5.55	2.82***

^areference group is HiS ^b***p<0.001; **p<0.01; *p<0.05