

Epidemiology / Risk and protective factors in MCI and dementia

Interactive effects of chronic health conditions and financial hardship on episodic memory among older blacks: Findings from the Health and Retirement Study

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Abstract

Background: Previous research suggests that chronic health conditions and financial hardship robustly shape cognitive health outcomes, including ADRD risk in older Blacks. However, few studies have explored the moderating effect of financial hardship on chronic disease burden and specific cognitive domains. This study examined whether financial hardship modifies the impact of self-reported chronic health conditions on episodic memory among a representative sample of older Blacks enrolled in the 2006 Health and Retirement Study (HRS).

Method: The study included 934 older Blacks (50+ years) who completed the psychosocial leave-behind questionnaire in the 2006 wave of the HRS. Episodic memory included a composite standardized score of immediate and delayed recall. Six chronic health conditions (e.g., hypertension, diabetes, stroke) were summed and dichotomized (0-1 vs. as ≥ 2 conditions). Financial hardship was assessed as self-reported difficulty paying monthly bills (range: not at all=0 to very/completely=3). Weighted OLS regression models tested independent associations between chronic health conditions and episodic memory, controlling for sociodemographic characteristics. An interaction term tested moderation by financial hardship.

Result: The majority of the sample was female (39.34% male) and had less than a high school education (35.89%; Table 1). Financial hardship modified the association between chronic disease burden and episodic memory performance such that individuals who reported very little difficulty paying their monthly bills had significantly lower memory scores at high levels of disease burden compared to those reporting high financial difficulty after controlling for age, gender, education and income ($F_{2, 49} = 4.97, p = 0.011$; see Table 2 and Figure 1).

Conclusion: The present study adds to our understanding of cognitive aging among older Black Americans. Results support previous research, pointing to the independent negative effects of both chronic diseases and subjective financial burden, but also extend the literature by suggesting an interactive effect. Specifically, multimorbidity was more strongly associated with worse episodic memory functioning among older

Blacks with less financial hardship, which appeared to be driven by the relatively low cognitive functioning among those with the greatest financial hardship. This pattern of results suggest that financial hardship may be just as consequential for cognitive aging as chronic diseases for older Blacks.

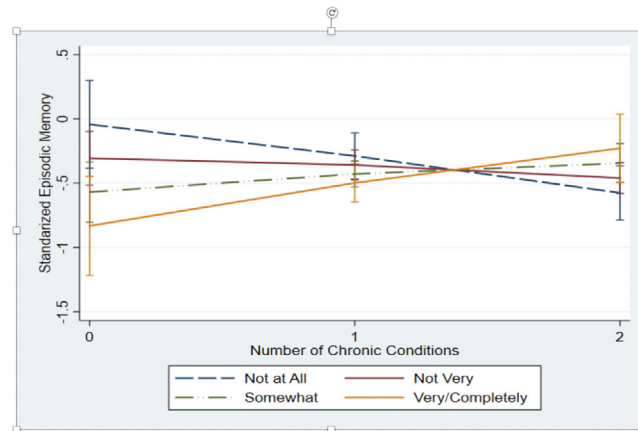


Figure 1. The Cross-sectional Relationship between the Number of Chronic Health Conditions and Episodic Memory as Moderated by Financial Hardship among Blacks (50+ years). 2006 Health and Retirement Study, Weighted (N=871).
Note. Adjusted for age, gender, education, and household income to poverty ratio.

FIGURE 1

TABLE 1

Table 1. Sample Characteristics of Blacks (50+ years). 2006 Health and Retirement Study, Weighted (N=934).

Characteristics	%
Mean Age, years (SD)	65.74(0.424)
Female	60.66
Education	
Less than High School	35.89
GED	5.85
High School Diploma	26.06
Some College	21.78
College Graduate & Above	10.41
Mean Income to Poverty Ratio, Dollars (SD)	3.18(0.212)
Difficulty Making Payments	
Not at All	18.79
Not Very	24.88
Somewhat	36.4
Very/Completely	14.82
Chronic Conditions	
No Conditions	13.81
1 Condition	54.71
2 or More Conditions	31.49

Note. SD = standard deviation.

TABLE 2

Table 2. OLS Regression Analysis for the Number of Chronic Conditions on Episodic Memory as Moderated by Financial Hardship among Blacks (50+ years). 2006 Health and Retirement Study, Weighted (N=871).

	b(se)
Age (years)	-0.030***(0.003)
Female	0.091(0.062)
Education^a	
GED	-0.117 (-0.59)
High School Diploma	0.342***(0.089)
Some College	0.613***(0.093)
College Graduate & Above	0.690***(0.097)
Income to Poverty Ratio	0.007(0.010)
Difficulty Making Payments	-0.263*(0.101)
Chronic Conditions^b	
1 Condition	-0.246(0.160)
2 or More Conditions	-0.533**(0.188)
Chronic Conditions x Difficulty Making Payments Interaction	
1 Condition x Payment Difficulty	0.193(0.102)
2 or More Conditions x Payment Difficulty	0.379**(0.125)
Constant	1.512***(0.253)

Note. *b* = unstandardized coefficient; se = standard error.

^aReference group = Less than High School.

^bReference group = No Health Conditions.

p*<0.05; ** *p*<0.01; * *p*<0.001.