

WEB MATERIAL

Association Between Immune Response to Cytomegalovirus and Cognition in the Health and Retirement Study

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Web Table 1. Linear Model Estimates of CMV Seropositivity and Cognition Adjusted for Comorbidity ($n = 5,617$), Health and Retirement Study, 2016

Variable	Model 3	
	Estimate	95% CI
Intercept	20.68	20.23, 21.14
CMV		
Seropositive	-0.18	-0.44, 0.09
Seronegative		
Age	-0.17	-0.19, -0.15
Age ²	-0.01	-0.01, 0.00
Sex	Referent	
Male	-0.83	-1.05, -0.60
Female		
Educational attainment		
Less than HS	3.09	2.75, 3.43
HS diploma	4.00	3.63, 4.37
Some college	5.69	5.31, 6.07
College +	Referent	
Race/ethnicity		
Non-Hispanic White	Referent	
Non-Hispanic Black	-2.85	-3.19, -2.52
Hispanic	-1.60	-2.01, -1.20
Other	-2.17	-2.91, -1.44
Comorbidity	-2.01	-2.60, -1.41

Abbreviations: CI, confidence interval; CMV, cytomegalovirus; HS, high school.

Web Table 2. Linear Model Estimates of CMV IgG Tertiles and Cognition Adjusted for Comorbidity ($n = 5,617$), Health and Retirement Study, 2016

Variable	Model 3	
	Estimate	95% CI
Intercept	20.69	20.23, 21.15
CMV		
Tertile 3	-0.19	-0.51, 0.14
Tertile 2	-0.27	-0.59, 0.06
Tertile 1	-0.09	-0.41, 0.23
Seronegative	Referent	
Age	-0.17	-0.19, -0.15
Age ²	-0.01	-0.01, 0.00
Sex		
Male	-0.83	-1.06, -0.60
Female	Referent	
Educational attainment		
Less than HS	3.09	2.74, 3.43
HS diploma	3.99	3.62, 4.36
Some college	5.69	5.30, 6.07
College +	Referent	
Race/ethnicity		
Non-Hispanic White	Referent	
Non-Hispanic Black	-2.85	-3.19, -2.51
Hispanic	-1.60	-2.00, -1.19
Other	-2.18	-2.91, -1.44
Comorbidity	-2.01	-2.60, -1.41

Abbreviations: CI, confidence interval; CMV, cytomegalovirus; HS, high school.

Web Table 3. Educational Attainment–Stratified Linear Model Estimates of CMV Seropositivity and Cognition Adjusted for Comorbidity ($n = 5,617$), Health and Retirement Study, 2016

Variable	Educational Attainment											
	< HS		HS Diploma			Some College			College +			
	Estimate	95% CI		Estimate	95% CI		Estimate	95% CI		Estimate	95% CI	
Intercept	21.24	20.05,	22.43	23.90	23.32,	24.48	24.21	23.57,	24.85	26.35	25.80,	26.89
CMV												
Seropositive	-0.36	-1.43,	0.71	-0.02	-0.49,	0.44	-0.18	-0.69,	0.32	-0.34	-0.76,	0.08
Seronegative	Referent											
Age	-0.16	-0.22,	-0.10	-0.16	-0.19,	-0.12	-0.18	-0.22,	-0.14	-0.17	-0.21,	-0.14
Age ²	-0.01	-0.01,	0.00	-0.01	-0.01,	0.00	0.00	-0.01,	0.00	-0.01	-0.01,	-0.01
Sex												
Female	-0.35	-0.96,	0.27	-1.19	-1.58,	-0.81	-0.75	-1.22,	-0.28	-0.66	-1.07,	-0.25
Male	Referent											
Race/ethnicity												
Non-Hispanic White	Referent											
Non-Hispanic Black	-3.15	-3.96,	-2.34	-3.20	-3.76,	-2.64	-2.88	-3.55,	-2.20	-1.79	-2.55,	-1.03
Hispanic	-2.07	-2.83,	-1.31	-1.61	-2.36,	-0.86	-1.12	-2.05,	-0.19	-1.02	-2.29,	0.24
Other	-3.16	-5.15,	-1.17	-2.69	-3.99,	-1.38	-1.84	-3.39,	-0.30	-1.32	-2.55,	-0.08
Comorbidity	-2.77	-4.35,	-1.19	-2.21	-3.21,	-1.20	-1.18	-2.41,	0.05	-1.91	-3.04,	-0.78

Abbreviations: CI, confidence interval; CMV, cytomegalovirus; HS, high school.

Web Table 4. Educational Attainment–Stratified Linear Model Estimates of CMV IgG Tertiles and Cognition Adjusted for Comorbidity ($n = 5,617$), Health and Retirement Study, 2016

Variable	Educational Attainment											
	< HS			HS Diploma			Some College			College +		
	Estimate	95% CI		Estimate	95% CI		Estimate	95% CI		Estimate	95% CI	
Intercept	21.23	20.04,	22.43	23.91	23.33,	24.49	24.21	23.57,	24.85	26.36	25.81,	26.90
CMV												
Tertile 3	-0.15	-1.30,	1.00	0.22	-0.33,	0.77	-0.12	-0.74,	0.50	-0.09	-0.63,	0.45
Tertile 2	-0.25	-1.40,	0.91	-0.09	-0.64,	0.47	-0.26	-0.91,	0.40	-0.69	-1.24,	-0.15
Tertile 1	-0.74	-1.91,	0.44	-0.22	-0.77,	0.33	-0.19	-0.84,	0.45	-0.20	-0.81,	0.41
Seronegative	Referent											
Age	-0.16	-0.21,	-0.10	-0.16	-0.19,	-0.12	-0.18	-0.22,	-0.14	-0.17	-0.21,	-0.14
Age ²	-0.01	-0.01,	0.00	-0.01	-0.01,	0.00	0.00	-0.01,	0.00	-0.01	-0.01,	-0.01
Sex												
Male	-0.28	-0.90,	0.34	-1.24	-1.63,	-0.85	-0.75	-1.22,	-0.28	-0.67	-1.07,	-0.26
Female	Referent											
Race/ethnicity												
Non-Hispanic White	-3.18	-3.99,	-2.37	-3.18	-3.75,	-2.62	-2.87	-3.55,	-2.19	-1.79	-2.55,	-1.03
Non-Hispanic Black	-2.07	-2.83,	-1.31	-1.58	-2.33,	-0.83	-1.11	-2.04,	-0.19	-1.01	-2.27,	0.26
Hispanic	-3.13	-5.12,	-1.14	-2.67	-3.97,	-1.36	-1.84	-3.39,	-0.30	-1.38	-2.61,	-0.15
Other	Referent											
Comorbidity	-2.83	-4.41,	-1.25	-2.18	-3.19,	-1.18	-1.18	-2.41,	0.05	-1.91	-3.04,	-0.78

Abbreviations: CI, confidence interval; CMV, cytomegalovirus; HS, high school.

Web Figure 1. Sample flow chart showing how the study sample was derived (final study sample: $n = 5,617$), Health and Retirement Study, 2016

