

**Table S1.** Education Main Effects and the Interaction Effects between Education and Race-Sex Groups on Short Sleep, the NHIS 2004-2018.

		<b>Model A</b>	<b>Model B</b>	<b>Model C</b>
<b>Intercept</b>		-0.826 (0.021) ***	-0.942 (0.020) ***	-0.835 (0.025) ***
<b>Education (Ref: HS)</b>	<HS	0.103 (0.020) ***		0.082 (0.033) *
	SCol	0.033 (0.014) *		0.003 (0.022)
	Col	-0.386 (0.014) ***		-0.388 (0.022) ***
<b>Race-Sex Group (Ref: White Men)</b>	Black Men		0.361 (0.022) ***	0.114 (0.039) **
	Black Women		0.369 (0.018) ***	0.103 (0.036) **
	White Women		-0.069 (0.012) ***	-0.035 (0.023)
<b>Race-Sex by Education Interaction</b>	Black Men, <HS			-0.213 (0.071) **
	Black Women, <HS			-0.040 (0.061)
	White Women, <HS			0.105 (0.046) *
	Black Men, SCol			0.309 (0.055) ***
	Black Women, SCol			0.272 (0.047) ***
	White Women, SCol			-0.022 (0.031)
	Black Men, Col			0.605 (0.063) ***
	Black Women, Col			0.554 (0.053) ***
	White Women, Col			-0.097 (0.031) **

Note: Table figures are weighted logistic regression coefficient estimates. All models adjust for age and period patterns. Model A includes only the main effects of education. Model B includes only the main effects of race-sex groups. Model C includes the two main effects and their interactions. Age and period estimates are omitted for ease of presentation and available upon request. <HS: less than high school; HS: high school; SCol: some college; Col: college. \*: p<0.5; \*\*: p<0.1; \*\*\*: p<0.001.

Table S2. Logistic regression models results, before and after adjusting for social and demographic factors, the NHIS 2004-2018.

	Black Men			Black Women			White Men			White Women		
	Model 1	Model 2	Model 3	Model 1	Model 2	Model 3	Model 1	Model 2	Model 3	Model 1	Model 2	Model 3
<b>Intercept</b>	-0.781 (0.077) ***	-0.864 (0.092) ***	-1.346 (0.209) ***	-0.788 (0.059) ***	-0.739 (0.067) ***	-1.391 (0.150) ***	-0.755 (0.034) ***	-0.768 (0.041) ***	-1.777 (0.087) ***	-0.933 (0.032) ***	-0.948 (0.036) ***	-2.203 (0.070) ***
<b>Education</b>	<HS -0.139 (0.063) *	-0.115 (0.064)	-0.123 (0.073)	0.032 (0.051)	0.027 (0.052)	-0.003 (0.061)	0.084 (0.033) *	0.098 (0.033) **	0.030 (0.038)	0.186 (0.032) ***	0.192 (0.032) ***	0.060 (0.039)
<b>(Ref: HS)</b>	SCol 0.312 (0.051) ***	0.268 (0.051) ***	0.245 (0.058) ***	0.281 (0.041) ***	0.275 (0.042) ***	0.222 (0.049) ***	0.004 (0.022)	-0.007 (0.023)	0.018 (0.025)	-0.017 (0.021)	-0.025 (0.021)	0.019 (0.025)
	Col 0.221 (0.059) ***	0.145 (0.060) *	0.159 (0.078) *	0.173 (0.049) ***	0.155 (0.050) **	0.162 (0.067) *	-0.385 (0.022) ***	-0.419 (0.023) ***	-0.279 (0.029) ***	-0.482 (0.022) ***	-0.523 (0.022) ***	-0.300 (0.029) ***
<b>Employment</b>	Unemployed	-0.171 (0.089)	-0.145 (0.101)		-0.100 (0.070)	-0.202 (0.080) *		-0.060 (0.050)	-0.109 (0.055) *		0.156 (0.048) ***	0.040 (0.052)
<b>(Ref: Not in the LF)</b>	Employed	-0.058 (0.148)	0.083 (0.166)		-0.211 (0.113)	-0.100 (0.132)		-0.055 (0.071)	0.004 (0.076)		-0.246 (0.064) ***	-0.164 (0.071) *
<b>Work Hours</b>	1-34 hours	0.159 (0.160)	0.012 (0.178)		0.187 (0.120)	-0.012 (0.138)		-0.028 (0.076)	-0.052 (0.082)		0.171 (0.067) *	0.114 (0.074)
<b>(Ref=Not working)</b>	35-49 hours	0.127 (0.151)	-0.017 (0.168)		0.117 (0.115)	-0.013 (0.134)		-0.038 (0.072)	-0.042 (0.077)		0.235 (0.066) ***	0.235 (0.073) **
	50 hours +	0.503 (0.157) **	0.359 (0.177) *		0.598 (0.129) ***	0.447 (0.149) **		0.380 (0.073) ***	0.385 (0.079) ***		0.733 (0.069) ***	0.744 (0.077) ***
<b>Income</b>	< \$35,000		0.077 (0.059)			0.039 (0.049)			0.053 (0.027) *			0.197 (0.026) ***
<b>(Ref: 35K-75K)</b>	>= \$75,000		0.066 (0.067)			-0.092 (0.065)			-0.116 (0.024) ***			-0.135 (0.024) ***
	Laborer		-0.037 (0.070)			-0.135 (0.050) **			0.038 (0.026)			0.038 (0.022)
	Service		-0.029 (0.072)			-0.176 (0.071) *			0.120 (0.027) ***			0.308 (0.039) ***
<b>Home Ownership (Ref: Own)</b>			0.120 (0.052) *			0.091 (0.044) *			0.147 (0.024) ***			0.195 (0.024) ***
<b>Marital Status</b>	Formerly married		0.156 (0.067) *			0.158 (0.053) **			0.340 (0.029) ***			0.354 (0.026) ***
<b>(Ref: Married)</b>	Never married		-0.016 (0.070)			0.087 (0.055)			-0.012 (0.032)			0.114 (0.033) ***
<b>Family Size</b>			0.039 (0.021)			0.071 (0.015) ***			0.069 (0.009) ***			0.136 (0.009) ***
<b>BMI</b>			0.013 (0.005) **			0.019 (0.003) ***			0.024 (0.002) ***			0.020 (0.002) ***

Note: Table figures are weighted logistic regression coefficient estimates. Numbers in parenthesis are standard errors. Model 1: adjusted for age and time periods. Model 2: adjusted for age, time periods, work hours and employment status. Model 3: adjusted for age, time periods, socioeconomic variables, family- and health-related factors. <HS: less than high school; HS: high school; SCol: some college; Col: college or more. \*, p<0.5; \*\*, p<0.1; \*\*\*, p<0.001.

**Table S3.** Age and period patterns by education level for each race-sex group, the NHIS 2004-2018.

		Black Men							
		<HS		HS		SCol		Col	
Intercept		-0.573	0.204 **	-0.921	0.127 ***	-0.411	0.117 ***	-0.599	0.162 ***
	30	-0.359	0.258	0.448	0.153 **	0.085	0.148	0.194	0.187
Age	35	-0.354	0.272	0.340	0.161 *	0.222	0.143	0.384	0.189 *
	40	-0.264	0.252	0.279	0.148	0.218	0.146	0.255	0.193
	45	-0.351	0.239	0.310	0.149 *	0.267	0.146	0.366	0.192
	50	-0.089	0.234	0.222	0.150	0.108	0.141	0.598	0.196 **
	55	0.000	0.226	0.199	0.151	0.175	0.149	0.123	0.200
	60	-0.079	0.232	-0.080	0.165	-0.231	0.156	0.211	0.207
	65	-0.654	0.229 **	0.096	0.167	-0.334	0.160 *	-0.262	0.221
Period	2008-10	0.038	0.151	0.244	0.104 *	0.057	0.105	-0.055	0.141
	2011-14	0.204	0.126	0.204	0.090 *	0.218	0.092 *	0.139	0.124
	2015-18	0.262	0.150	0.372	0.103 ***	0.242	0.104 *	0.232	0.134

  

		Black Women							
		<HS		HS		SCol		Col	
Intercept		-0.873	0.130 ***	-0.884	0.105 ***	-0.442	0.083 ***	-0.595	0.124 ***
	30	0.101	0.171	0.265	0.134 *	0.153	0.099	0.113	0.150
Age	35	0.393	0.183 *	0.232	0.135	0.142	0.102	0.242	0.144
	40	0.350	0.187	0.232	0.134	0.094	0.105	0.308	0.147 *
	45	0.386	0.168 *	0.196	0.130	0.212	0.106 *	0.163	0.153
	50	0.420	0.165 *	0.306	0.129 *	0.063	0.108	0.211	0.155
	55	0.494	0.164 **	0.417	0.132 **	0.211	0.111	0.129	0.157
	60	0.263	0.162	0.286	0.141 *	-0.146	0.118	-0.094	0.164
	65	0.079	0.159	-0.244	0.144	-0.316	0.122 **	-0.229	0.171
Period	2008-10	-0.067	0.114	-0.081	0.090	0.069	0.079	0.120	0.111
	2011-14	0.092	0.100	0.205	0.079 **	0.187	0.069 **	0.157	0.094
	2015-18	0.285	0.120 *	0.451	0.090 ***	0.254	0.076 ***	0.250	0.103 *

  

		White Men							
		<HS		HS		SCol		Col	
Intercept		-0.700	0.102 ***	-0.737	0.059 ***	-0.683	0.053 ***	-1.228	0.059 ***
	30	-0.012	0.131	0.015	0.073	0.082	0.064	0.264	0.066 ***
Age	35	0.068	0.134	0.144	0.073 *	0.179	0.063 **	0.381	0.067 ***
	40	0.294	0.129 *	0.141	0.071 *	0.135	0.064 *	0.263	0.066 ***
	45	0.213	0.122	0.150	0.069 *	0.112	0.063	0.287	0.067 ***
	50	0.041	0.121	-0.002	0.069	0.006	0.064	0.360	0.068 ***
	55	0.125	0.121	-0.045	0.070	-0.076	0.063	0.196	0.068 **
	60	-0.137	0.123	-0.330	0.072 ***	-0.233	0.065 ***	-0.018	0.068
	65	-0.463	0.124 ***	-0.532	0.078 ***	-0.502	0.071 ***	-0.300	0.073 ***
Period	2008-10	0.065	0.084	0.057	0.049	-0.036	0.047	-0.093	0.048
	2011-14	0.150	0.072 *	0.147	0.043 ***	0.107	0.041 *	0.013	0.042
	2015-18	0.219	0.079 **	0.318	0.045 ***	0.185	0.042 ***	0.178	0.042 ***

  

		White Women							
		<HS		HS		SCol		Col	
Intercept		-0.786	0.095 ***	-1.017	0.066 ***	-0.861	0.047 ***	-1.438	0.050 ***
	30	0.217	0.122	0.256	0.080 **	0.211	0.057 ***	0.328	0.058 ***
Age	35	0.089	0.129	0.228	0.080 **	0.130	0.058 *	0.238	0.059 ***
	40	0.151	0.129	0.326	0.078 ***	0.039	0.058	0.202	0.060 ***
	45	0.306	0.121 *	0.225	0.076 **	0.117	0.058 *	0.309	0.061 ***
	50	0.381	0.119 **	0.369	0.073 ***	0.086	0.057	0.323	0.060 ***
	55	0.333	0.117 **	0.214	0.074 **	-0.034	0.057	0.280	0.062 ***
	60	0.093	0.114	-0.118	0.074	-0.173	0.059 **	0.109	0.064
	65	-0.031	0.113	-0.136	0.075	-0.406	0.063 ***	-0.096	0.069
Period	2008-10	0.088	0.080	0.134	0.047 **	0.100	0.042 *	-0.047	0.047
	2011-14	0.097	0.072	0.201	0.043 ***	0.184	0.037 ***	0.105	0.040 **
	2015-18	0.226	0.077 **	0.389	0.045 ***	0.352	0.038 ***	0.278	0.040 ***

Note: Table figures are weighted logistic regression coefficient estimates. Numbers in parenthesis are standard errors.  
 <HS: less than high school; HS: high school; SCol: some college; Col: college or more. \*, p<0.5; \*\*, p<0.1; \*\*\*, p<0.001.