

Social Isolation and Mortality in US Black and White Men and Women

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Web Table 1. Association of Social Isolation Score with All-Cause Mortality, Stratified by 15 Years of Follow-up^a, United States, Cancer Prevention Study II Cohort, 1982–2012

Follow-up Time	Statistic	Social Isolation Score					P for Trend
		(Least Isolated) 0	1	2	3	(Most Isolated) 4	
1982–2012	N	251,164	208,078	91,755	25,892	3,293	
	Person-Years	6,376,624	5,066,408	2,182,393	602,631	72,763	
	Cases	99,876	92,898	43,092	12,528	1,612	
	Rate ^b	1,661	1,927	2,190	2,479	2,894	
	HR (95% CI)	1	1.06 (1.05, 1.07)	1.13 (1.11, 1.14)	1.21 (1.19, 1.23)	1.43 (1.36, 1.50)	<0.0001
1982–1997	N	251,164	208,078	91,755	25,892	3,293	
	Person-Years	3,659,837	2,979,005	1,294,999	359,075	43,732	
	Cases	29,809	31,910	16,173	5,101	805	
	Rate ^b	1,435	1,716	2,051	2,461	3,288	
	HR (95% CI)	1	1.10 (1.09, 1.12)	1.23 (1.20, 1.25)	1.37 (1.33, 1.41)	1.76 (1.64, 1.89)	<0.0001
1998–2012	N	219,583	173,923	74,438	20,350	2,406	
	Person-Years	2,716,787	2,087,403	887,395	243,555	29,031	
	Cases	70,067	60,988	26,919	7,427	807	
	Rate ^b	1,745	2,035	2,274	2,512	2,679	
	HR (95% CI)	1	1.04 (1.03, 1.05)	1.08 (1.06, 1.10)	1.13 (1.10, 1.16)	1.22 (1.13, 1.30)	<0.0001

Abbreviations: CI (confidence interval), HR (hazard ratio).

^a P-interaction for 15-year strata is <0.0001.

^b Deaths/100,000 Person-Years, standardized to the age distribution of the CPS-II cohort 1982–2012. Models are stratified on single-year of age and race, and adjusted for sex, smoking status, education, body mass index, and history of diabetes.

Web Table 2. Social Isolation Score and All-Cause Mortality Interaction with Smoking Status, United States, Cancer Prevention Study II Cohort, 1982–1997^a

Social Isolation Score	Smoking Status									<i>P</i> for Interaction
	Never			Current			Former			
	Cases	HR	95% CI	Cases	HR	95% CI	Cases	HR	95% CI	
0 (Least isolated)	11,945		1	7,043	1		8,940		1	0.30
1	12,211	1.12	1.09, 1.15	9,180	1.10	1.07, 1.14	8,876	1.08	1.05, 1.11	
2	5,212	1.21	1.17, 1.25	5,824	1.21	1.17, 1.25	4,355	1.22	1.18, 1.26	
3	1,545	1.40	1.33, 1.48	2,105	1.30	1.24, 1.37	1,208	1.31	1.24, 1.39	
4 (Most isolated)	279	1.74	1.54, 1.96	340	1.68	1.51, 1.88	161	1.91	1.64, 2.23	

Abbreviations: CI (confidence interval), HR (hazard ratio).

^a Models are stratified on single-year of age, and adjusted for sex, race, education, body mass index, and history of diabetes.

Web Table 3. Association of Social Isolation Score with Mortality by Race and Sex, United States, Cancer Prevention Study II Cohort, 1982–1997

Outcome	Race/ Sex	Statistic	Social Isolation Score					P for Trend
			(Least Isolated) 0	1	2	3	(Most Isolated) ^b 4	
All-cause Mortality	Black Men	Person-Years	36,396	36,282	19,072	6,579	970	
		Deaths	616	671	359	129	28	
		Rate ^a	2,748	2,974	3,460	3,553	8,722	
		HR (95% CI)	1	1.05 (0.94, 1.17)	1.11 (0.97, 1.26)	1.14 (0.94, 1.39)	2.34 (1.58, 3.46)	0.0047
	White Men	Person-Years	1,376,770	1,221,902	573,884	168,773	15,960	
		Deaths	16,595	16,068	8,140	2,492	241	
		Rate ^a	1,918	2,185	2,510	2,883	3,346	
		HR (95% CI)	1	1.07 (1.05, 1.09)	1.19 (1.15, 1.22)	1.34 (1.29, 1.40)	1.60 (1.41, 1.82)	<0.0001
	Black Women	Person-Years	66,785	72,555	38,055	11,443	1,457	
		Deaths	522	757	503	168	28	
		Rate ^a	1,430	1,701	2,084	2,469	4,638	
		HR (95% CI)	1	1.08 (0.96, 1.20)	1.21 (1.07, 1.38)	1.34 (1.12, 1.60)	2.13 (1.44, 3.15)	<0.0001
	White Women	Person-Years	2,179,887	1,648,267	663,987	172,280	25,345	
		Deaths	12,076	14,414	7,171	2,312	508	
		Rate ^a	1,035	1,387	1,703	2,125	3,124	
		HR (95% CI)	1	1.14 (1.12, 1.17)	1.26 (1.22, 1.30)	1.37 (1.31, 1.44)	1.84 (1.68, 2.01)	<0.0001
CVD Mortality	Black Men	Deaths	259	274	140	74		
		HR (95% CI)	1	1.02 (0.86, 1.21)	1.04 (0.85, 1.29)	1.51 (1.16, 1.97)	0.0236	
	White Men	Deaths	6,923	6,693	3,225	1,041		
		HR (95% CI)	1	1.08 (1.04, 1.11)	1.15 (1.10, 1.20)	1.29 (1.21, 1.38)	<0.0001	
	Black Women	Deaths	179	309	217	79		
		HR (95% CI)	1	1.17 (0.97, 1.41)	1.37 (1.12, 1.68)	1.49 (1.14, 1.96)	0.0004	
	White Women	Deaths	4,066	5,664	2,993	1,229		
		HR (95% CI)	1	1.16 (1.11, 1.21)	1.30 (1.24, 1.37)	1.47 (1.37, 1.57)	<0.0001	
Cancer Mortality	Black Men	Deaths	208	220	127	45		
		HR (95% CI)	1	1.03 (0.85, 1.25)	1.15 (0.92, 1.44)	1.07 (0.77, 1.49)	0.324	
	White Men	Deaths	5,791	5,538	2,828	919		
		HR (95% CI)	1	1.04 (1.00, 1.08)	1.13 (1.08, 1.19)	1.25 (1.17, 1.34)	<0.0001	
	Black Women	Deaths	213	249	149	45		
		HR (95% CI)	1	0.95 (0.79, 1.14)	1.01 (0.81, 1.25)	0.94 (0.68, 1.30)	0.865	
	White Women	Deaths	5,100	5,172	2,315	801		
		HR (95% CI)	1	1.13 (1.09, 1.17)	1.16 (1.11, 1.22)	1.26 (1.17, 1.36)	<0.0001	

Abbreviations: CVD (cardiovascular disease), CI (confidence interval), HR (hazard ratio).

^a Deaths/100,000 Person-Years, standardized to the age distribution of the CPS-II cohort 1982-2012.

^b Scores 3 and 4 combined for cause-specific mortality analyses. Models stratified on single-year of age and race, and adjusted for smoking status, education, body mass index, and history of diabetes.