

Table S1. Stratified analysis of the association between ADI and hypertension in the Sister Study

ADI		<=10 %	11-20 %	21-35 %	36-55 %	>55%	P for trend
Race/Ethnicity							
Non-Hispanic white	N	7979	7393	8796	8359	7737	
	PR (95%CI)	1(referent)	1.13(1.08,1.2)	1.16(1.11,1.2)	1.2(1.16,1.3)	1.27(1.2,1.3)	<0.001
Non-Hispanic Black	N	337	503	800	1000	1598	
	PR (95%CI)	1(referent)	1.2(1.1,1.4)	1.2(1.1,1.4)	1.2(1.1,1.4)	1.2(1.1,1.4)	0.15
Hispanic	N	263	247	351	295	395	
	PR (95%CI)	1(referent)	1.1(0.78,1.5)	1.3(0.95,1.7)	1.4(1.02,1.8)	1.4(1.06,1.9)	0.01
Others	N	258	199	230	256	333	
	PR (95%CI)	1(referent)	1.3(1.01,1.8)	1.4(1.03,1.8)	1.5(1.1,2.0)	1.7(1.3,2.2)	<0.001
p for interaction							<0.001
Educational attainment							
High school or less	N	549	938	1498	1842	2274	
	PR (95%CI)	1(referent)	1.1(0.95,1.2)	1.1(0.95,1.2)	1.1(0.98,1.2)	1.1(0.98,1.2)	0.19
Some college	N	2123	2570	3400	3758	4128	
	PR (95%CI)	1(referent)	1.1(1,1.2)	1.2(1.1,1.3)	1.2(1.1,1.3)	1.2(1.2,1.3)	<0.001
Bachelor's degree or more	N	6165	4834	5279	4310	3661	
	PR (95%CI)	1(referent)	1.2(1.1,1.3)	1.2(1.1,1.3)	1.3(1.2,1.4)	1.33(1.25,1.4)	<0.001
p for interaction							0.001
Annual household income							
≤\$49,999	N	788	1221	2197	3046	4416	
	PR (95%CI)	1(referent)	1.2(1.04,1.3)	1.2(1.1,1.4)	1.3(1.2,1.4)	1.3(1.2,1.4)	<0.001

\$50,000-\$99,999	N	2615	3352	4619	4659	4243	
	PR (95%CI)	1(referent)	1.1(1.03,1.2)	1.15(1.07,1.23)	1.2(1.1,1.3)	1.24(1.16,1.33)	<0.001
≥\$100,000	N	5434	3769	3361	2205	1404	
	PR (95%CI)	1(referent)	1.18(1.1,1.26)	1.18(1.1,1.27)	1.22(1.13,1.32)	1.24(1.14,1.35)	<0.001
p for interaction							0.54
BMI (kg/m ²)							
BMI<30	N	7187	6283	7032	6507	6057	
	PR (95%CI)	1(referent)	1.1(1.05,1.2)	1.1(1.07,1.2)	1.2(1.1,1.3)	1.22(1.15,1.3)	<0.001
BMI≥30	N	1645	2058	3143	3401	4000	
	PR (95%CI)	1(referent)	1.11(1.04,1.2)	1.08(1.01,1.14)	1.11(1.05,1.17)	1.10(1.04,1.17)	0.03
p for interaction							<0.001
MET hours per week on exercise or sports							
<5	N	2278	2618	3780	3971	4705	
	PR (95%CI)	1(referent)	1.07(1.00,1.2)	1.10(1.03,1.2)	1.16(1.08,1.2)	1.16(1.08,1.2)	<0.001
5-14	N	2621	2538	3110	2976	2938	
	PR (95%CI)	1(referent)	1.11(1.02,1.2)	1.16(1.08,1.3)	1.18(1.09,1.3)	1.21(1.13,1.3)	<0.001
≥15	N	3933	3184	3277	2956	2414	
	PR (95%CI)	1(referent)	1.24(1.1,1.3)	1.20(1.1,1.3)	1.28(1.2,1.4)	1.29(1.2,1.4)	<0.001
p for interaction							0.002

Results shown are from fully-adjusted models (not including the stratification variable).

High ADI represents high deprivation.

Missing sample size for exercise or sports MET-hours was 30, for BMI was 16.

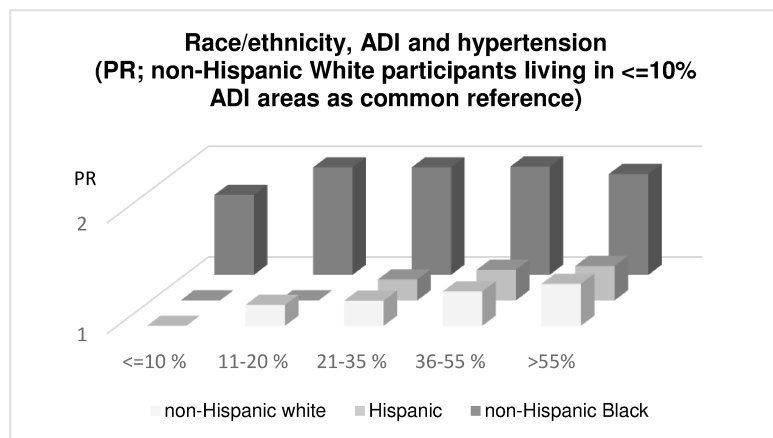
Table S2. ADI and risk of hypertension stratified by race, household income, educational attainment, and MET hours on exercise/sports (common referent)

ADI		<=10 %	11-20 %	21-35 %	36-55 %	>55%
Race/Ethnicity						
Non-Hispanic white	N	7979	7393	8796	8359	7737
	PR (95%CI)	1(referent)	1.14(1.08,1.2)	1.17(1.12,1.23)	1.24(1.18,1.3)	1.30(1.24,1.37)
Hispanic	N	263	247	351	295	395
	PR (95%CI)	0.93(0.74,1.17)	0.98(0.77,1.24)	1.14(0.96,1.35)	1.21(1.02,1.43)	1.24(1.07,1.43)
Non-Hispanic Black	N	337	503	800	1000	1598
	PR (95%CI)	1.65(1.47,1.86)	1.96(1.83,2.09)	1.96(1.84,2.08)	1.97(1.87,2.07)	1.88(1.79,1.98)
Educational attainment						
High school or less	N	549	938	1498	1842	2274
	PR (95%CI)	1.41(1.26,1.57)	1.54(1.41,1.68)	1.53(1.42,1.65)	1.56(1.46,1.66)	1.53(1.44,1.63)
Some college	N	2123	2570	3400	3758	4128
	PR (95%CI)	1.25(1.16,1.35)	1.36(1.27,1.46)	1.46(1.37,1.55)	1.51(1.43,1.6)	1.51(1.43,1.6)
Bachelor's degree or more	N	6165	4834	5279	4310	3661
	PR (95%CI)	1(referent)	1.2(1.13,1.28)	1.21(1.14,1.28)	1.3(1.22,1.38)	1.39(1.31,1.47)
Annual household income						
≤\$49,999	N	788	1221	2197	3046	4416
	PR (95%CI)	1.13(1.02,1.26)	1.32(1.22,1.43)	1.4(1.31,1.49)	1.43(1.34,1.52)	1.42(1.34,1.51)
\$50,000-\$99,999	N	2615	3352	4619	4659	4243
	PR (95%CI)	1.13(1.05,1.22)	1.26(1.18,1.35)	1.31(1.23,1.39)	1.39(1.31,1.47)	1.43(1.35,1.52)
≥\$100,000	N	5434	3769	3361	2205	1404

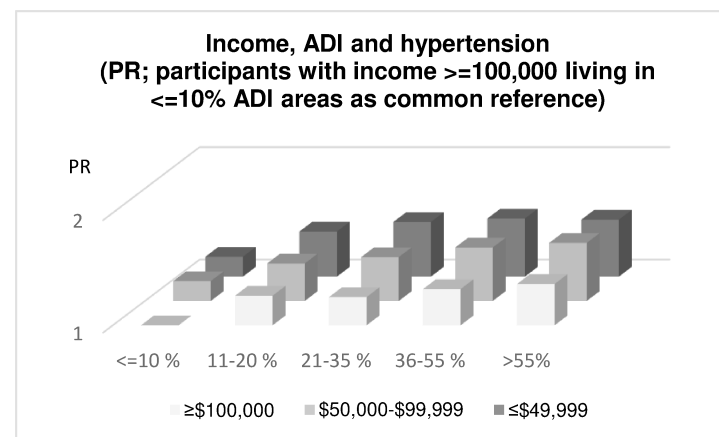
	PR (95%CI)	1(referent)	1.2(1.12,1.29)	1.19(1.1,1.28)	1.25(1.16,1.35)	1.29(1.18,1.4)
Exercise or sports MET hours per week						
<5	N	2278	2618	3780	3971	4705
	PR (95%CI)	1.57(1.45,1.71)	1.69(1.57,1.83)	1.74(1.62,1.87)	1.79(1.67,1.92)	1.76(1.65,1.89)
5-14	N	2621	2538	3110	2976	2938
	PR (95%CI)	1.33(1.23,1.45)	1.47(1.35,1.59)	1.54(1.43,1.66)	1.56(1.45,1.68)	1.63(1.51,1.75)
>=15	N	3933	3184	3277	2956	2414
	PR (95%CI)	1(referent)	1.25(1.15,1.36)	1.22(1.12,1.32)	1.33(1.23,1.45)	1.4(1.29,1.51)

Models were adjusted for age, race, annual household income, and educational attainment. High ADI represents high deprivation.

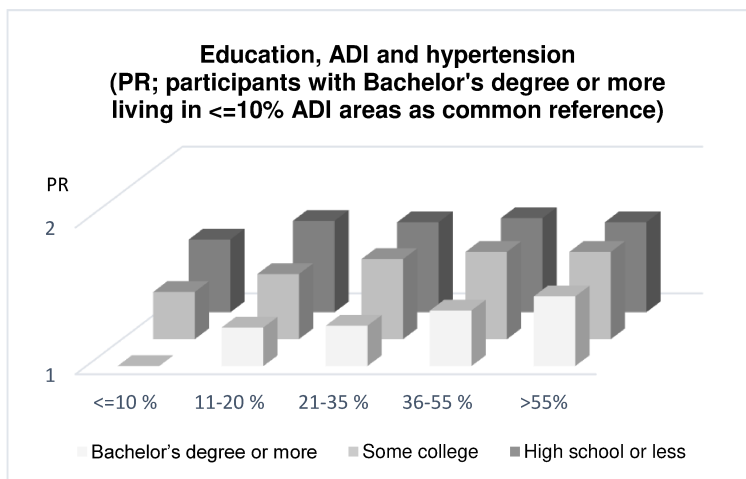
Missing sample size for exercise or sports MET-hours was 30



A



B



C

Figure S1. ADI and risk of hypertension stratified by race/ethnicity, annual household income and educational attainment (common reference)

Table S3. Relative excess risk due to interaction (RERI)/interaction contrast ratio (ICR) between ADI and covariates

ADI	11-20 %	21-35 %	36-55 %	>55%
Educational attainment				
High school or less	0.16(-0.26,0.57)	0.01(-0.37,0.38)	0.11(-0.27,0.49)	-0.06(-0.43,0.32)
Some college	-0.06(-0.28,0.16)	0.14(-0.08,0.35)	0.15(-0.07,0.37)	0.12(-0.11,0.36)
Annual household Income				
≤\$49,999	0.05(-0.22,0.32)	0.25(0,0.5)	0.21(-0.05,0.46)	0.38(0.12,0.65)
\$50,000-\$99,999	-0.09(-0.28,0.1)	0.03(-0.15,0.21)	0.03(-0.18,0.23)	0.09(-0.15,0.32)
Race/Ethnicity				
Non-Hispanic Black	0.64(-0.13,1.41)	1.1(0.34,1.9)	1.3(0.45,2.1)	1.9(0.94,2.8)
Hispanic	-0.13(-0.32,0.06)	-0.03(-0.22,0.16)	-0.05(-0.28,0.17)	-0.02(-0.27,0.24)

Results shown are from fully-adjusted models (not including the stratification variable).
High ADI represents high deprivation.

Table S4. Distribution of exercise/sports MET-hours per week and diet indexes according to ADI percentile [N (%)]

ADI	<=10 (n=8837)	11-20 % (n=8342)	21-35 % (n=10177)	36-55 % (n=9910)	>55% (n=10063)
MET-hours per week on exercise or sports					
<5	2278(26)	2618(31)	3780(37)	3971(40)	4705(47)
5-14	2621(30)	2538(30)	3110(31)	2976(30)	2938(29)
>=15	3933(44)	3184(38)	3277(32)	2956(30)	2414(24)
Missing	5	2	10	7	6
Dietary Approaches to Stop Hypertension (DASH) diet score					
8-21	1831(21)	2106(26)	2882(29)	3238(34)	3852(40)
22-26	3298(38)	3050(38)	3753(38)	3557(37)	3418(35)
27-39	3470(40)	2954(37)	3271(33)	2813(29)	2413(25)
Missing	238	232	271	302	380

High ADI represents high deprivation.

Table S5. Sensitivity analyses

ADI	Excluding participants who began living at current residence after 2000 (N=29,994)		Using new definition of hypertension [*] (N=47,329)		Additionally adjusted for DASH diet score (N=45,906)	
	N	PR (95%CI)	N	PR (95%CI)	N	PR (95%CI)
<=10 %	5944	1(referent)	8837	1(referent)	8599	1(referent)
11-20 %	5175	1.16(1.10,1.23)	8342	1.07(1.03,1.11)	8110	1.14(1.09,1.19)
21-35 %	6332	1.19(1.13,1.25)	10177	1.11(1.07,1.14)	9906	1.16(1.12,1.22)
36-55 %	6117	1.24(1.18,1.31)	9910	1.16(1.12,1.2)	9608	1.21(1.16,1.27)
>55%	6426	1.27(1.21,1.34)	10063	1.16(1.12,1.2)	9683	1.21(1.16,1.26)
<i>P</i> for trend		<0.001		<0.001		<0.001

Adjusted for age, race, annual household income, and educational attainment.

DASH: Dietary Approaches to Stop Hypertension diet;

High ADI represents high deprivation.

^{*} Using new definition for hypertension (either sbp≥130 or dbp≥80 or regularly taking meds) as outcome

Table S6. ADI Index and continuous BP measures among participants not on antihypertensive medications (N=32,612)

ADI	n	SBP β estimate (95%CI)	DBP β estimate (95%CI)	PP * β estimate (95%CI)	MAP * β estimate (95%CI)
<=10 %	6775	referent	referent	referent	referent
11-20 %	6003	0.09(-0.33,0.51)	-0.11(-0.40,0.20)	0.20(-0.10,0.50)	-0.04(-0.35,0.27)
21-35 %	7065	0.72(0.31,1.13)	0.20(-0.09,0.48)	0.52(0.23,0.81)	0.37(0.07,0.67)
36-55 %	6531	1.1(0.68,1.5)	0.40(0.10,0.70)	0.71(0.40,1.01)	0.64(0.32,0.95)
>55%	6238	1.9(1.5,2.4)	0.82(0.51,1.1)	1.1(0.78,1.4)	1.2(0.86,1.5)
<i>P</i> for trend		<0.001	<0.001	<0.001	<0.001

Abbreviations: SBP-systolic blood pressure, DBP-diastolic blood pressure, PP-pulse pressure, MAP-mean arterial pressure.

Models were Adjusted for age, race, annual household income, and educational attainment.

High ADI represents high deprivation.

* PP=SBP-DBP; MAP=1/3(SBP)+2/3(DBP).