

Supplementary Table e-1. Characteristics of the study population by tertiles of total brain volume and mean cortical thickness.

	Total	TBV tertiles				Mean CT tertiles			
		Low (N=224)	Middle (N=225)	High (N=225)	p	Low (N=224)	Middle (N=225)	High (N=225)	p
Age (years), mean(SD)	80.07 (5.6)	81.46 (5.65)	79.98 (5.64)	78.78 (5.12)	<0.001	80.86 (5.97)	79.85 (5.56)	79.5 (5.11)	0.027
Education(years), mean(SD)	10.71 (4.8)	9.96 (4.90)	10.88 (4.86)	11.29 (4.45)	0.010	10.71 (4.41)	10.61 (4.84)	10.82 (5.04)	0.903
Energy intake(Cal), mean(SD)	1400 (533)	1372 (509)	1406 (508)	1421 (579)	0.600	1386 (534)	1412 (490)	1400 (572)	0.880
APOE ε4+, N (%)	163 (25)	52 (24)	58 (26)	53 (24)	0.790	48 (22)	63(28)	52 (24)	0.260
Female, N (%)	454 (67)	152 (68)	164 (73)	138 (61)	0.030	125 (56)	158 (70)	171 (76)	<0.0001
Ethnicity, N (%)					0.510				<0.0001
White	187 (28)	58 (26)	66 (29)	63 (28)		50 (22)	65 (29)	72 (32)	
Black	235 (35)	74 (33)	72 (32)	89 (40)		101 (45)	71 (32)	63 (28)	
Hispanics	239 (35)	88 (39)	82 (36)	69 (31)		64 (29)	85 (38)	90 (40)	
Others	13 (2)	4 (2)	5 (2)	4 (2)		9 (4)	4 (2)	0 (0)	
Stroke, N (%)	70 (11)	19 (8.6)	27 (12)	27 (11)	0.460	19 (8.6)	25 (11)	26 (12)	0.540
Diabetes, N (%)	139 (21)	58 (26)	43 (20)	38 (17)	0.050	63 (29)	45 (20)	31 (14)	0.001
Hypertension, N (%)	491 (74)	163 (74)	163 (74)	165 (73)	0.980	165 (75)	157 (71)	169 (75)	0.460
Heart Disease, N (%)	139 (21)	52 (24)	47 (22)	40 (18)	0.320	56 (26)	37 (17)	46 (21)	0.080
BMI (kg/m ²), mean(SD)	27.8 (5.6)	28.62 (6.44)	27.07 (4.93)	27.77 (5.14)	0.015	27.87 (5.93)	28.51 (5.73)	27.1 (4.96)	0.031
Language, mean(SD)	0.32 (0.63)	0.17 (0.62)	0.36 (0.62)	0.42 (0.64)	<0.001	0.26 (0.64)	0.29 (0.62)	0.4 (0.64)	0.041
Memory, mean(SD)	0.14 (0.73)	0.02 (0.71)	0.20 (0.73)	0.19 (0.73)	0.014	0.04 (0.73)	0.1 (0.74)	0.29 (0.69)	0.001
Speed, mean(SD)	0.21 (1.00)	0.00 (1.01)	0.25 (0.95)	0.34 (1.03)	0.002	0.08 (1.02)	0.29 (0.98)	0.25 (1.01)	0.089
Visuospatial, mean(SD)	0.29 (0.58)	0.07 (0.64)	0.38 (0.51)	0.41 (0.54)	<0.001	0.24 (0.59)	0.28 (0.58)	0.35 (0.57)	0.118
Mean Cognition, mean(SD)	0.23 (0.59)	0.05 (0.6)	0.29 (0.54)	0.34 (0.59)	<0.001	0.14 (0.61)	0.23 (0.58)	0.31 (0.57)	0.005
CDR =0.5	221 (33)	91 (41)	68 (30)	62 (28)	0.008	83 (37)	82 (36)	56 (24)	0.008
MeDi, mean(SD)	4.26 (1.71)	4.10 (1.64)	4.17 (1.72)	4.52 (1.75)	0.021	4.31 (1.74)	4.17 (1.64)	4.3 (1.75)	0.641
MeDi High, N(%)	304 (45)	81 (36)	104 (46)	119 (53)	0.002	109 (49)	90 (40)	105 (47)	0.160
mCT (mm), mean(SD)	2.46 (0.12)	2.45 (0.12)	2.46 (0.11)	2.46 (0.11)	0.194	2.33 (0.08)	2.46 (0.03)	2.58 (0.06)	<0.001
TBV (ml), mean(SD)	0 (62.79)	-65.67 (40.95)	0.94 (12.4)	64.44 (39.23)	<0.001	-5.99 (70.09)	6.48 (60.09)	-0.52 (57.16)	0.108
TGMV (ml), mean(SD)	0 (35.36)	-28.72 (30.33)	1.94 (22.66)	26.66 (28.01)	<0.001	-18.92 (34.9)	3.61 (29.4)	15.23 (32.8)	<0.001
TWMV(ml), mean(SD)	0 (42.66)	-37.68 (31.65)	5.2 (24.2)	36.34 (33.44)	<0.001	3.84 (44.11)	6.33 (41.84)	-6.13 (41.16)	0.005

Abbreviations: Clinical Dementia Rating(CDR), total brain volume (TBV), total gray matter volume (TGMV), total white matter volume (TWMV), and mean cortical thickness (mCT).

Supplementary Table e-2. Cross-sectional association between MeDi components and global brain measures.

MeDi Components*	TBV (ml)		TGMV (ml)		TWMV (ml)		mCT (mm)	
	B	P	B	P	B	P	B	P
<i>Model 1: Unadjusted</i>								
Fruit, High vs. low	-0.98	0.85	-3.37	0.24	0.23	0.95	-0.006	0.55
Vegetable, High vs. low	4.31	0.39	0.41	0.89	-0.14	0.97	-0.004	0.66
Fish High, vs. low	8.64	0.08	7.35	0.008	3.54	0.30	0.018	0.04
Legume, High vs. low	0.36	0.94	-1.55	0.58	0.64	0.85	0.001	0.91
cereal, High vs. low	-4.65	0.35	-1.78	0.52	-0.31	0.93	0.000	0.97
MUFA/SFA, High vs. low	3.16	0.82	0.49	0.95	10.60	0.26	-0.008	0.74
Dairy, Low vs. high	4.32	0.42	0.61	0.84	0.84	0.82	-0.013	0.18
Meat, Low vs. high	10.23	0.04	7.97	0.004	3.88	0.25	0.016	0.08
Moderate Alcohol	14.65	0.01	9.00	0.004	5.95	0.12	0.000	0.96
<i>Adjusted for age only</i>								
Fruit, High vs. low	0.04	0.99	-2.53	0.35	1.05	0.75	-0.004	0.65
Vegetable, High vs. low	3.84	0.44	0.01	0.99	-0.55	0.87	-0.005	0.60
Fish High, vs. low	8.05	0.10	6.76	0.01	2.93	0.36	0.017	0.06
Legume, High vs. low	2.6	0.59	0.4	0.88	2.69	0.41	0.005	0.61
cereal, High vs. low	-5.35	0.27	-2.24	0.39	-1.07	0.74	0.005	0.99
MUFA/SFA, High vs. low	-0.94	0.86	0.04	0.99	1.73	0.62	0.001	0.90
Dairy, Low vs. high	5.42	0.30	0.86	0.76	2.13	0.54	-0.015	0.12
Meat, Low vs. high	10.92	0.02	8.68	0.001	4.53	0.16	0.017	0.05
Moderate Alcohol	12.7	0.02	7.26	0.02	3.95	0.28	-0.003	0.79
<i>Adjusted for age, sex, education, ethnicity, BMI, diabetes, and mean cognition.</i>								
Fruit, High vs. low	-2.36	0.64	-4.68	0.08	1.81	0.73	-0.009	0.35
Vegetable, High vs. low	3.79	0.46	1.31	0.62	-0.40	0.91	-0.001	0.88
Fish High, vs. low	9.18	0.06	7.06	0.006	4.21	0.20	0.019	0.03
Legume, High vs. low	2.44	0.64	-1.17	0.66	0.76	0.82	0.002	0.83
cereal, High vs. low	-4.95	0.33	-3.49	0.19	-1.93	0.57	-0.005	0.60
MUFA/SFA, High vs. low	-5.45	0.70	-4.45	0.54	5.60	0.55	-0.005	0.84
Dairy, Low vs. high	6.79	0.21	1.94	0.49	2.81	0.44	-0.009	0.38
Meat, Low vs. high	12.20	0.02	8.42	0.002	3.67	0.28	0.011	0.22
Moderate Alcohol	8.26	0.16	4.64	0.13	1.98	0.61	-0.006	0.56
<i>Excluding MCI subjects. Adjusted for age, sex, education, ethnicity, BMI, diabetes, and mean cognition.</i>								
Fruit, High vs. low	0.52	0.93	-3.29	0.29	3.00	0.45	-0.004	0.68
Vegetable, High vs. low	8.75	0.14	2.87	0.35	2.73	0.49	-0.002	0.84
Fish High, vs. low	7.19	0.21	8.67	0.004	3.26	0.40	0.028	0.01
Legume, High vs. low	-0.20	0.97	-0.52	0.87	0.17	0.97	0.005	0.66
cereal, High vs. low	0.12	0.98	-2.35	0.44	-0.27	0.95	-0.005	0.64
MUFA/SFA, High vs. low	-9.88	0.53	-1.69	0.84	4.04	0.70	-0.001	0.98
Dairy, Low vs. high	6.70	0.28	2.19	0.50	3.29	0.43	-0.011	0.35
Meat, Low vs. high	15.61	0.01	11.37	0.0002	4.01	0.30	0.014	0.17
Moderator Alcohol	2.50	0.71	2.90	0.41	-1.43	0.75	-0.008	0.50

*All food components entered into model at the same time. A P-value less than 0.05 was considered significant and indicated in bold. ^{||} Excluding 159 MCI subject, 23 subjects whose cognitive data were insufficient for MCI diagnosis, and 14 subjects without APOE. Model based on 478 remaining subjects. Abbreviations: total brain volume (TBV), total gray matter volume (TGMV), total white matter volume (TWMV), and mean cortical thickness (mCT).

Supplementary Table e-3. Cross-sectional association between Mediterranean diet components and regional gray matter volumes or thickness.

<i>Food components*</i>	Cingulate		Parietal		Temporal		Hippocampus		Superior-frontal CT	
	b	<i>p</i>	b	<i>p</i>	b	<i>p</i>	b	<i>p</i>	b	<i>p</i>
<i>Model 1: unadjusted</i>										
Fruit, High vs. low	-0.07	0.70	-0.34	0.60	-0.07	0.07	-0.17	0.01	0.001	0.95
Vegetable, High vs. low	-0.07	0.67	0.12	0.85	0.04	0.37	0.08	0.22	-0.011	0.39
Fish, High vs. low	0.49	0.003	1.33	0.03	0.11	0.005	0.14	0.04	0.021	0.08
Legume, High vs. low	-0.06	0.72	0.46	0.46	-0.02	0.58	-0.02	0.82	0.015	0.22
Cereal, High vs. low	-0.03	0.84	-0.37	0.56	0.00	0.95	0.00	0.97	-0.003	0.80
MUFA/SFA, High vs. low	-0.10	0.58	-0.18	0.79	-0.01	0.89	0.03	0.68	0.023	0.08
Dairy, Low vs. high	0.20	0.25	0.53	0.43	0.01	0.84	0.06	0.38	-0.019	0.15
Meat, Low vs. high	0.57	0.001	1.57	0.01	0.09	0.02	0.11	0.12	0.039	0.002
Moderate Alcohol	0.37	0.05	1.83	0.01	0.10	0.02	0.13	0.10	-0.026	0.06
<i>Model 2. Adjusted for age only</i>										
Fruit, High vs. low	-0.04	0.80	-0.21	0.74	-0.06	0.10	-0.15	0.02	0.000	0.97
Vegetable, High vs. low	-0.08	0.62	0.06	0.92	0.03	0.42	0.07	0.25	-0.009	0.47
Fish, High vs. low	0.48	0.004	1.25	0.04	0.10	0.006	0.12	0.05	0.020	0.09
Legume, High vs. low	-0.01	0.95	0.74	0.23	0.00	0.96	0.04	0.51	0.023	0.06
Cereal, High vs. low	-0.05	0.78	-0.44	0.47	-0.01	0.82	-0.01	0.85	-0.007	0.57
MUFA/SFA, High vs. low	-0.12	0.51	-0.29	0.66	-0.01	0.71	0.01	0.89	0.025	0.05
Dairy, Low vs. high	0.22	0.22	0.60	0.36	0.01	0.72	0.08	0.24	-0.020	0.13
Meat, Low vs. high	0.59	0.0003	1.66	0.01	0.09	0.01	0.12	0.04	0.041	0.001
Moderate Alcohol	0.32	0.08	1.59	0.02	0.08	0.06	0.08	0.27	-0.025	0.07
<i>Model 3. Adjusted for age, sex, education, ethnicity, BMI, diabetes, and mean cognition.</i>										
Fruit, High vs. low	-0.17	0.32	-0.51	0.42	-0.08	0.03	-0.16	0.01	-0.002	0.87
Vegetable, High vs. low	-0.04	0.82	0.39	0.53	0.05	0.19	0.07	0.24	-0.006	0.64
Fish, High vs. low	0.53	0.001	1.26	0.04	0.11	0.002	0.12	0.06	0.018	0.13
Legume, High vs. low	0.01	0.96	0.18	0.78	-0.01	0.79	-0.02	0.76	0.017	0.17
Cereal, High vs. low	-0.05	0.77	-0.99	0.11	-0.03	0.43	-0.04	0.49	-0.014	0.27
MUFA/SFA, High vs. low	-0.07	0.69	0.13	0.84	-0.02	0.62	0.05	0.48	0.022	0.09
Dairy, Low vs. high	0.21	0.24	0.76	0.25	0.03	0.43	0.07	0.31	-0.011	0.39
Meat, Low vs. high	0.51	0.003	1.47	0.02	0.09	0.01	0.11	0.09	0.036	0.004
Moderate Alcohol	0.07	0.73	1.20	0.09	0.04	0.37	0.09	0.21	-0.024	0.09

*All food components entered into model at the same time.

A P-value less than 0.05 was considered significant and indicated in bold.

