Supplementary Materials

Table S1 Food items constituting the food groups and scoring criteria in PDI, hPDI and uPDI

Healthy	Food groups	PDI	hPDI	uPDI
Whole grains	Cereal, oatmeal, dark bread, etc.			
Fruits	Apples, bananas, melon, grapefruit, berries, citrus, apricots, fruit cocktail, etc.		Q1 = 1 point Q2 = 2 points Q3 = 3 points Q4 = 4 points Q5 = 5 points	Q1 = 5 points Q2 = 4 points Q3 = 3 points Q4 = 2 points Q5 = 1 point
Vegetables	Broccoli, cabbage, lettuce, mushrooms, carrots, avocado, etc.			
Nuts	Hazelnuts, peanuts, peanut butter			
Legumes	Tofu, soybeans, beans or lentils and peas			
Vegetable oils	All vegetable oils used for cooking	Q1 = 1 point Q2 = 2 points Q3 = 3 points Q4 = 4 points Q5 = 5 points		
Tea & Coffee	Tea and coffee			
Less healthy				
Fruit juices	Apple juice and orange juice			
Refined grains	White bread, white rice, white spaghetti, digestive biscuits, etc.		Q1 = 5 points Q2 = 4 points Q3 = 3 points Q4 = 2 points Q5 = 1 point	Q1 = 1 point Q2 = 2 points Q3 = 3 points Q4 = 4 points Q5 = 5 points
Potatoes	Potato chips, baked, salad or mashed potatoes, potato crisps			
Sugar sweetened beverages	Soft drinks and concentrated fruit drinks			
Sweets and Desserts	Chocolates, sweets, pudding, doughnuts, cake, pie, etc.			
Animal Food Groups				
Animal fat	Butter and lard used for cooking	Q1 = 5 points Q2 = 4 points Q3 = 3 points Q4 = 2 points	Q1 = 5 points Q2 = 4 points Q3 = 3 points Q4 = 2 points	Q1 = 5 points Q2 = 4 points Q3 = 3 points Q4 = 2 points
Dairy	Milk, cream, ice cream, yogurt, cheese			
Egg	Eggs			

Fish or Seafood	Tuna, salmon, fish, prawns, mussel, crab, etc	Q5 = 1 point	Q5 = 1 point	Q5 = 1 point
Meat	Poultry, bacon, liver, sausages, beef, pork, lamb, etc.			
Misc. animal-based foods	Cream soup, creamy salad dressing, oxtail soup, quiche			

Note: Abbreviations: PDI, Plant-based diet index; hPDI, Healthful Plant-based diet index; uPDI, Unhealthful Plant-based diet index; Q, quintile.

Table S2 Food items constituting the eight food groups in DASH and its scoring system

Components	Foods	Scoring
Whole grains	Cereal, oatmeal, dark bread, etc.	Q1 = 1 point Q2 = 2 points Q3 = 3 points Q4 = 4 points Q5 = 5 points
Fruits	Apples, bananas, melon, grapefruit, berries, citrus, apricots, fruit cocktail, apple juice, orange juice, etc.	
Vegetables	Broccoli, cabbage, lettuce, mushrooms, carrots, avocado, etc.	
Nuts and legumes	Hazelnuts, peanuts, peanut butter, tofu, soybeans, beans or lentils and peas	
Low-fat dairy	Skimmed/semi-skimmed milk, low-fat yogurt, cottage cheese	Q1 = 5 points Q2 = 4 points Q3 = 3 points Q4 = 2 points Q5 = 1 point
Red and processed meats	Bacon, liver, sausages, beef, pork, lamb, etc.	
Sweetened beverages	Soft drink	
Sodium	Sum of sodium in FFQ	

Note: Abbreviations: DASH, Dietary Approaches to Stop Hypertension Diet; Q, quintile.

Table S3 Food items of each component of Mediterranean-DASH Intervention for Neurodegenerative Delay (MIND) Diet and scoring system

Brain healthy foods		Scoring 0	Scoring 0.5	Scoring 1
Green leafy vegetables	Cabbage, lettuce, spinach, coleslaw, watercress, etc.	≤2 servings/wk	> 2 to <6/wk	≥6 servings/wk
Other vegetables	Potatoes, peppers, carrots, broccoli, peas, avocado, etc.	<5 serving/wk	5 – <7 wk	≥1 serving/day
Berries	Strawberries, raspberries	<1 serving/wk	1-2 /wk	≥2 servings/wk
Nuts	Hazelnuts, peanuts, peanut butter	<1/mo	1/mo – <5/wk	≥5 servings/wk
Olive oil	Olive oil used for cooking and dressing	Not primary oil		Primary oil used
Whole grains	Cereal, oatmeal, dark bread, etc.	<1 serving/d	1–3 /d	≥3 servings/d
Fish (not fried)	Fish and seafood without being fried	Rarely	1–3 /mo	≥1 meals/wk
Beans	Beans, lentils, tofu, soybeans, etc.	<1 meal/wk	1–3/wk	>3 meals/wk
Poultry	Chicken, turkey	<1 meal/wk	1-2 /wk	≥2 meals/wk
Brain unhealthy foods				
Butter, margarine	Butter, margarine, lard	>2 Teaspoons /d	1–2 teaspoons /d	<1 Teaspoon /d
Cheese	Cheese and cheese sauce	7+ servings/wk	1–6 /wk	< 1 serving/wk
Red meat and products	Bacon, liver, sausages, beef, pork, lamb, etc.	7+ meals/wk	4–6 /wk	< 4 meals/wk
Fast fried foods	Fried chips and cod, fish fingers	4+ times/wk	1–3 /wk	<1 time/wk
Pastries and sweets	Digestive biscuits, cake, fruit pies, ice cream, chocolate bars, croissants, cream crackers, scones, etc.	7+ servings/wk	5 –6 /wk	<5 servings/wk
Wine	Rose wine, vermouth	>1 glass/d or never	1/mo – 6/wk	1 glass/d

Table S4 Food items of each component of Original Mediterranean Diet Index (oMED) and scoring criteria

Components	Foods	Scoring 0	Scoring 1
Beneficial components			
Fruits and nuts	Apples, bananas, melon, grapefruit, berries, citrus, apricots, fruit cocktail, apple juice, orange juice, hazelnuts, peanuts, peanut butter, etc.	< median	> median
Vegetables	Potatoes, broccoli, cabbage, lettuce, mushrooms, carrots, avocado, potatoes, etc.	< median	> median
Legumes	Tofu, soybeans, beans or lentils and peas	< median	> median
Cereals	Refined and whole grains	< median	> median
Fish	Tuna, salmon, fish, prawns, mussel, crab, etc	< median	> median
Detrimental components			
Meat	Poultry, bacon, liver, sausages, beef, pork, lamb, etc.	> median	< median
Dairy products	Milk, cream, ice cream, full-fat yogurt, cheese, butter	> median	< median
Alcohol/Ethanol	Wine, beer, cider, etc	Women <5 or >25g; Men <10 or >50g	Women 5 to 25 g; Men 10 to 50 g
Fat intake	Ratio of monounsaturated fatty acids to saturated fatty acids	< median	> median

Table S5 Food items of each component of Alternate Mediterranean Diet Index (aMED) and scoring criteria

Components	Foods	Scoring 0	Scoring 1
Beneficial components			
Fruits	Apples, bananas, melon, grapefruit, berries, citrus, apricots, fruit cocktail, apple juice, orange juice, etc.	< median	> median
Nuts	Hazelnuts, peanuts, seeds.	< median	> median
Vegetables	Broccoli, cabbage, lettuce, mushrooms, carrots, avocado, potatoes, etc.	< median	> median
Legumes	Tofu, soybeans, beans or lentils and peas	< median	> median
Whole grains	Whole grains	< median	> median
Fish	Tuna, salmon, fish, prawns, mussel, crab, etc	< median	> median
Detrimental components			
Red meat and processed meat	Bacon, liver, sausages, beef, pork, lamb, etc.	> median	< median
Alcohol/Ethanol	Wine, beer, cider, etc	<5 or >25g/d	5 to 25 g/d
Fat intake	Ratio of monounsaturated fatty acids to saturated fatty acids	< median	> median

Table S6 Spearman correlations between food groups in each dietary pattern and mood

	Positive Mood		Negative Mood	
	Correlation Coefficient	*p* value	Correlation Coefficient	*p* value
PDI_wholegrains	0.059	0.284	-0.087	0.114
PDI_fruits	0.114*	0.037	0.005	0.931
PDI_vegetables	0.139*	0.011	-0.066	0.227
PDI_legumes	0.055	0.313	-0.046	0.409
PDI_vegetable oil	-0.029	0.594	0.007	0.899
PDI_tea & coffee	0.083	0.131	-0.026	0.643
PDI_juice	0.074	0.18	0.002	0.968
PDI_refined grains	-0.018	0.75	0.015	0.79
PDI_potato	0.080	0.144	-0.025	0.655
PDI_sugar beverage	-0.020	0.722	0.070	0.201
PDI_sweets & desserts	-0.080	0.143	-0.016	0.768
PDI_animal fat	-0.023	0.678	-0.018	0.739
PDI_dairy	0.053	0.338	-0.032	0.564
PDI_eggs	-0.082	0.135	-0.001	0.986
PDI_fish	0.050	0.366	-0.066	0.229
PDI_meat	-0.020	0.72	0.062	0.259
PDI_misc. animal-based foods	0.002	0.974	-0.039	0.479
DASH_fruits	0.131*	0.017	0.008	0.878
DASH_vegetables	0.134*	0.014	-0.062	0.26
DASH_nuts	0.072	0.188	-0.069	0.209
DASH_whole grains	0.059	0.284	-0.087	0.114
DASH_low fat dairy	0.035	0.520	0.017	0.764
DASH_red meat	-0.022	0.687	0.034	0.542
DASH_sweet beverage	0.006	0.912	-0.004	0.947
DASH_sodium	0.098	0.075	-0.048	0.385
MIND_green vegetables	0.096	0.089	-0.078	0.168
MIND_other vegetables	0.139*	0.014	-0.022	0.694
MIND_berries	0.003	0.951	-.113*	0.045
MIND_nuts	0.117*	0.038	-0.063	0.264
MIND_olive oil	-0.047	0.408	0.020	0.727
MIND_butter & margarine	-0.074	0.192	-0.018	0.749
MIND_cheese	0.029	0.612	-0.009	0.878
MIND_whole grains	0.061	0.278	-0.073	0.195
MIND_fish (not fried)	0.047	0.410	-0.055	0.336
MIND_beans	0.062	0.275	-0.070	0.219
MIND_poultry	-0.022	0.698	0.008	0.883
MIND_red meat	-0.041	0.466	-0.006	0.914
MIND_fast fried foods	0.057	0.315	-0.087	0.125
MIND_pastries & sweets	-0.062	0.270	-0.036	0.523

	Positive Mood		Negative Mood	
	Correlation Coefficient	p value	Correlation Coefficient	p value
MIND_wine	-0.040	0.481	0.024	0.677
oMED_vegetables	0.152**	0.007	-0.067	0.236
oMED_legumes	0.070	0.217	-0.053	0.354
oMED_fruits & nuts	0.125*	0.026	-0.026	0.649
oMED_cereals	0.001	0.992	-0.080	0.160
oMED_fish	0.048	0.401	-0.080	0.156
oMED_ratio of monounsaturated fatty acids to saturated fatty acids	0.150**	0.008	0	0.996
oMED_dairy	0.030	0.602	-0.003	0.961
oMED_meat	-0.033	0.563	0.031	0.589
oMED_alcohol	-0.006	0.915	-0.015	0.794
aMED_vegetables	0.131*	0.020	-0.061	0.282
aMED_legumes	0.070	0.217	-0.053	0.354
aMED_fruits	0.115*	0.042	-0.021	0.715
aMED_nuts	0.112*	0.048	-0.061	0.284
aMED_whole grains	0.068	0.230	-0.068	0.227
aMED_fish	0.048	0.401	-0.080	0.156
aMED_ratio of monounsaturated fatty acids to saturated fatty acids	0.150**	0.008	0	0.996
aMED_red meat	-0.032	0.574	0.011	0.843
aMED_alcohol	-0.029	0.613	-0.044	0.436

Note: *$p<0.05$; **$p<0.01$. Abbreviations: PDI, Plant-based diet index; hPDI, Healthful Plant-based diet index; uPDI, Unhealthful Plant-based diet index; DASH, Dietary Approaches to Stop Hypertension Diet; MIND, Mediterranean-DASH Intervention for Neurodegenerative Delay (MIND) Diet; oMED, Original Mediterranean Diet Index; aMED, Alternate Mediterranean Diet Index.

Table S7 PANAS scores by adult participants' characteristics (N=314)

Characteristics	N (%)	Positive Mood Mean (SD)	Negative Mood Mean (SD)
Sex			
Male	101 (32.2)	0.15 (0.95)	-0.14 (0.81)
Female	213 (67.8)	-0.07 (1.01)	0.07 (1.07)
Ethnicity			
White	234 (74.5)	0.03 (0.95)	-0.04 (0.93)
Black	11 (3.5)	0.76 (0.89)	0.21 (1.25)
Asian	55 (17.5)	-0.42 (1.06)	0.17 (1.25)
Mixed	14 (4.5)	0.54 (0.86)	-0.12 (0.73)
Age group			
18-25 years	80 (25.5)	-0.29 (1.02)	0.05 (0.92)
26-45 years	105 (33.4)	-0.08 (0.95)	0.04 (1.04)
46-64 years	54 (17.2)	0.16 (0.91)	-0.01 (1.14)
>= 65 years	75 (23.9)	0.30 (1.01)	-0.11 (0.90)
Smoking history			
Yes	69 (22.0)	-0.01 (0.86)	0.00 (1.00)
No	245 (78.0)	0.00 (1.03)	-0.00 (1.00)
Alcohol use			
< 3 units/week	202 (64.3)	-0.01 (1.05)	-0.07 (0.97)
≥ 3 units/week	112 (35.7)	0.02 (0.89)	0.12 (1.04)
BMI			
Underweight	12 (3.8)	-0.09 (1.22)	0.18 (1.10)
Ideal	208 (66.2)	-0.04 (0.96)	0.01 (0.99)
Overweight	76 (24.2)	0.06 (1.02)	-0.14 (0.83)
Obese	18 (5.7)	0.33 (1.16)	0.36 (1.51)
Physical activity (MET/week)			
Low	10 (3.2)	-0.36 (1.08)	-0.22 (0.75)
Moderate	75 (23.9)	-0.06 (0.97)	-0.00 (1.02)
High	206 (65.6)	0.01 (1.00)	0.02 (1.01)

Note: Abbreviations: PANAS: Positive and Negative Affect Schedule.

Table S8 Diet pattern scores by adult participants' characteristics (N=314)

	PDI			hPDI			uPDI			DASH		
	Mean (SD)	t/F value	p value	Mean (SD)	t/F value	p value	Mean (SD)	t/F value	p value	Mean (SD)	t/F value	p value
Sex		1.025	0.306		-2.571	0.011		2.660	0.008		-2.849	0.005
Male	51.0 (6.9)			50.6 (8.4)			52.5 (6.9)			23.6 (5.3)		
Female	50.2 (6.1)			53.2 (8.0)			50.3 (7.1)			25.4 (4.5)		
Age group		0.038	0.990		4.371	0.005		6.796	<0.001		7.161	<0.001
18-25 years	50.3 (7.1)			50.7 (9.2)			51.9 (7.6)			23.7 (5.1)		
26-45 years	50.5 (5.8)			51.6 (8.5)			52.6 (6.6)			23.9 (5.1)		
46-64 years	50.7 (5.9)			52.2 (6.7)			50.5 (7.4)			25.4 (4.2)		
>= 65 years	50.5 (6.4)			55.1 (7.1)			48.1 (6.2)			26.8 (4.0)		
BMI		0.933	0.425		1.964	0.119		0.177	0.912		0.581	0.628
Underweight	49.3 (4.4)			53.1 (9.2)			51.6 (9.6)			23.6 (5.1)		
Ideal	50.7 (6.3)			53.0 (8.2)			51.0 (7.0)			25.0 (4.9)		
Overweight	50.0 (6.7)			50.4 (8.1)			50.7 (7.1)			24.4 (4.8)		
Obese	52.1 (6.6)			52.0 (7.2)			52.0 (7.3)			24.9 (4.0)		
Physical activity		0.608	0.545		7.214	0.001		5.781	0.003		6.955	0.001
Low	49.3 (7.5)			47.9 (5.7)			54.1 (5.2)			21.4 (4.1)		
Moderate	50.1 (6.3)			50.0 (7.4)			53.3 (6.4)			23.4 (5.1)		
High	50.8 (6.3)			53.5 (8.4)			50.3 (7.4)			25.4 (4.7)		

Note: Abbreviations: PDI, Plant-based diet index; hPDI, Healthful Plant-based diet index; uPDI, Unhealthful Plant-based diet index; DASH, Dietary Approaches to Stop Hypertension Diet.

Table S9 Spearman correlations between dietary patterns and adult participants' mood

	PDI	hPDI	uPDI	DASH
Positive mood	0.090	0.051	-0.102	0.132*
Negative mood	-0.035	0.017	0.061	-0.052

Note: Abbreviations: PDI, Plant-based diet index; hPDI, Healthful Plant-based diet index; uPDI, Unhealthful Plant-based diet index; DASH, Dietary Approaches to Stop Hypertension Diet. *$p<0.05$.

Table S10 Influencing factors of adults' positive mood score: Linear regression analysis

	Model 1 (PDI)			Model 2 (DASH)		
	B (95% CI)	β	*p*	B (95% CI)	β	*p*
Sex [a]	-0.225 (-0.457, 0.007)	-0.106	0.057	-0.265 (-0.499, -0.031)	-0.124	0.027
Age	0.011 (0.005, 0.016)	0.207	<0.001	0.010 (0.004, 0.015)	0.184	0.001
Diet pattern score	0.009 (-0.009, 0.026)	0.054	0.326	0.020 (-0.004, 0.043)	0.096	0.096
R^2	0.056			0.062		
Adjusted R^2	0.047			0.053		
F	6.165***			6.805***		

Note: [a] reference group: male; Abbreviations: PDI, Plant-based diet index; DASH, Dietary Approaches to Stop Hypertension Diet. *p<0.05; **p<0.01; ***p<0.001.