Supplementary Table S1. Diet scores calculation

Foods/food groups included in the aMED based on availability in the food frequency questionnaire		
Food groups	**Foods**	**Criteria for aMED scoring[1]**
Vegetables	Tomatoes, carrots, spinach, broccoli, sprouts, cabbage, peas, green beans, marrow, cauliflower, parsnips, leeks, onions, garlic, mushrooms, sweet petters, beansprouts, green salad, watercress, tomatoes, sweetcorn, beetroot, avocado	1 point for consumption ≥ sex-specific median of study population
Legumes	Baked beans, dried lentils, beans, peas, tofu	1 point for consumption ≥ sex-specific median of study population
Fruit	Dried fruit & tinned fruit, limited to 1 serve/day; Oranges, apples, pears, banana, melons (cantaloupe, dew melon, watermelon, etc), grapes, strawberries, raspberries, kiwi fruit, peaches, plums, apricots.	1 point for consumption ≥ sex-specific median of study population
Nuts	Nuts, peanut butter	1 point for consumption ≥ sex-specific median of study population
Whole grains	Brown bread and rolls, whole-meal bread and rolls, brown rice, whole-meal pasta	1 point for consumption ≥ sex-specific median of study population
Red and processed meat	Beef, beefburgers, pork, lamb, chicken, bacon, ham, corned beef, sausages, liver	1 point for consumption < sex-specific median of study population[2]
Fish	Fried fish, fish fingers/cakes, other white fish, oily fish, shellfish, fish roe	1 point for consumption ≥ sex-specific median of study population
Ratio of monounsaturated to saturated fat	Monounsaturated and saturated fat intake	1 point for intakes ≥ sex-specific median of study population
Ethanol	Alcohol intake from all sources (wine, beer, port, sherry, spirits)	1 point for intakes within the following range: M, 10-25 g/day F, 5-15 g/day
Foods/food groups included in the MIND diet based on availability in the food frequency questionnaire		
Food Component	**Examples**	**Recommended Intake for 1 Point**
Green leafy vegetables	Spinach, kale, collards, lettuce	≥6 servings/week
Other vegetables	Carrots, broccoli, squash, bell peppers	≥1 serving/day
Nuts	Almonds, walnuts, peanuts, etc.	≥5 servings/week

Berries	Blueberries, strawberries	≥2 servings/week
Beans	Lentils, chickpeas, black beans, etc.	≥3 meals/week
Whole grains	Brown rice, oats, whole grain bread, whole wheat pasta	≥3 servings/day
Fish	Salmon, mackerel, sardines	≥1 meal/week
Poultry	Chicken, turkey	≥2 meals/week
Olive oil	Olive oil as cooking or dressing oil	Primary oil used at home
Wine	Red or white wine	≤1 glass/day
Red meats	Beef, pork, lamb, processed meats	<4 servings/week
Butter & stick margarine	Solid fats	<1 tablespoon/day
Cheese	All types including processed cheese	<1 serving/week
Pastries & sweets	Cakes, cookies, candy, ice cream	<5 servings/week
Fried/fast food	Fried chicken, fries, takeaways, burgers	<1 serving/week

Note: aMED, alternate Mediterranean die score; F, females; M, males [1]Zero points for not meeting the criteria.

Sensitivity analysis:

Supplementary Table S2. Sensitivity analysis using rank-based inverse normal transformed Deviation from Expected (DfE) scores: associations with aMED and MIND diet scores

Total aMED			**Total MIND**		
Cognitive scores	**β (95%CI)**	**p-value**	**Cognitive scores**	**β (95%CI)**	**p-value**
G: Global	0.03 [-0.04, 0.11]	0.393	G: Global	0.07 [-0.01, 0.14]	0.083
PC0: Objects memory	-0.06 [-0.13, 0.02]	0.118	PC0: Objects memory	-0.00 [-0.08, 0.07]	0.944
PC1: Problem solving	0.03 [-0.04, 0.10]	0.446	PC1: Problem solving	0.05 [-0.02, 0.12]	0.163
PC2: IPS	**-0.08 [-0.15, -0.00]**	**0.037**	PC2: IPS	-0.03 [-0.10, 0.05]	0.468
PC3: Words memory	0.03 [-0.04, 0.11]	0.408	**PC3: Words memory**	**0.07 [0.00, 0.14]**	**0.045**
2D Manipulations	-0.02 [-0.10, 0.05]	0.554	2D Manipulations	-0.02 [-0.09, 0.05]	0.579
Blocks	-0.03 [-0.11, 0.04]	0.382	Blocks	0.03 [-0.05, 0.10]	0.518
Card Pairs	-0.02 [-0.10, 0.05]	0.507	Card Pairs	0.03 [-0.04, 0.09]	0.467
Motor Control	-0.06 [-0.14, 0.01]	0.101	Motor Control	-0.02 [-0.10, 0.05]	0.543
Objects Memory Delayed	-0.04 [-0.11, 0.03]	0.271	Objects Memory Delayed	0.02 [-0.05, 0.10]	0.578
Objects Memory Immediate	-0.03 [-0.11, 0.04]	0.405	Objects Memory Immediate	0.00 [-0.08, 0.08]	0.913
SRT	**-0.08 [-0.15, -0.00]**	**0.046**	SRT	-0.06 [-0.14, 0.01]	0.101
Switching Stroop	0.05 [-0.03, 0.12]	0.228	Switching Stroop	0.07 [-0.00, 0.15]	0.060
Trail Making	-0.04 [-0.12, 0.03]	0.221	Trail Making	-0.04 [-0.12, 0.03]	0.291
Verbal Analogies	**0.09 [0.01, 0.17]**	**0.021**	Verbal Analogies	0.04 [-0.04, 0.11]	0.351
Word Definitions	**0.08 [0.00, 0.16]**	**0.037**	**Word Definitions**	**0.09 [0.01, 0.16]**	**0.024**
Words Memory Delayed	0.02 [-0.05, 0.09]	0.578	Words Memory Delayed	0.06 [-0.01, 0.14]	0.083
Words Memory Immediate	0.05 [-0.02, 0.13]	0.180	Words Memory Immediate	0.06 [-0.01, 0.13]	0.092
Categorical aMED			**Categorical MIND**		
Cognitive scores	**β (95%CI)**	**p-value**	**Cognitive scores**	**β (95%CI)**	**p-value**
G: Global			G: Global		

	0.03 [-0.15,			0.08 [-0.11,	0.40
T2	0.20]	0.776	T2	0.26]	8
	0.07 [-0.11,			0.13 [-0.06,	0.17
T3	0.26]	0.430	T3	0.31]	2
PC0: Objects memory			PC0: Objects memory		
	-0.14 [-0.32,			-0.02 [-0.20,	0.80
T2	0.04]	0.138	T2	0.16]	8
	-0.14 [-0.32,			-0.07 [-0.26,	0.49
T3	0.04]	0.138	T3	0.13]	5
PC1: Problem solving			PC1: Problem solving		
	0.00 [-0.18,			-0.09 [-0.27,	0.32
T2	0.18]	0.982	T2	0.09]	2
	0.09 [-0.09,			0.11 [-0.07,	0.22
T3	0.27]	0.330	T3	0.29]	4
PC2: IPS			PC2: IPS		
	-0.23 [-0.40,			-0.12 [-0.30,	0.19
T2	**-0.06]**	**0.007**	T2	0.06]	2
	-0.15 [-0.33,			-0.12 [-0.30,	0.18
T3	0.03]	0.098	T3	0.06]	5
PC3: Words memory			PC3: Words memory		
	-0.04 [-0.21,			**0.22 [0.05,**	**0.01**
T2	0.14]	0.675	T2	**0.40]**	**3**
	0.07 [-0.12,			0.11 [-0.07,	0.24
T3	0.26]	0.477	T3	0.29]	3
2D Manipulations			2D Manipulations		
	0.02 [-0.15,			-0.03 [-0.22,	0.75
T2	0.18]	0.843	T2	0.16]	8
	-0.09 [-0.28,			-0.01 [-0.19,	0.91
T3	0.11]	0.398	T3	0.17]	3
Blocks			Blocks		
	-0.09 [-0.27,			-0.06 [-0.24,	0.48
T2	0.08]	0.297	T2	0.11]	2
	-0.02 [-0.21,			0.07 [-0.12,	0.47
T3	0.17]	0.813	T3	0.25]	7
Card Pairs			Card Pairs		
	-0.02 [-0.20,			0.05 [-0.14,	0.62
T2	0.16]	0.816	T2	0.23]	4
	-0.03 [-0.21,			0.07 [-0.11,	0.46
T3	0.16]	0.766	T3	0.24]	0
Motor Control			Motor Control		
	-0.19 [-0.36,			-0.04 [-0.21,	0.68
T2	**-0.01]**	**0.038**	T2	0.14]	8
	-0.15 [-0.33,			-0.06 [-0.25,	0.50
T3	0.04]	0.118	T3	0.12]	6
Objects Memory Delayed			Objects Memory Delayed		

	-0.12 [-0.30,			-0.00 [-0.18,	0.96
T2	0.06]	0.209	T2	0.18]	6
	-0.11 [-0.29,			-0.01 [-0.20,	0.92
T3	0.07]	0.238	T3	0.18]	1
Objects Memory Immediate			Objects Memory Immediate		
	-0.08 [-0.26,			-0.01 [-0.20,	0.87
T2	0.10]	0.360	T2	0.17]	6
	-0.06 [-0.25,			-0.05 [-0.25,	0.57
T3	0.13]	0.540	T3	0.14]	7
SRT			**SRT**		
	-0.07 [-0.25,			-0.14 [-0.32,	0.14
T2	0.11]	0.435	T2	0.05]	5
	-0.17 [-0.36,			**-0.19 [-0.38, -**	**0.04**
T3	0.02]	0.082	T3	**0.01]**	**5**
Switching Stroop			Switching Stroop		
	-0.11 [-0.29,			-0.12 [-0.30,	0.21
T2	0.07]	0.245	T2	0.07]	7
	0.14 [-0.05,			0.11 [-0.07,	0.23
T3	0.33]	0.160	T3	0.30]	0
Trail Making			Trail Making		
	-0.14 [-0.30,			-0.04 [-0.22,	0.62
T2	0.03]	0.103	T2	0.13]	3
	-0.11 [-0.28,			-0.11 [-0.29,	0.24
T3	0.07]	0.242	T3	0.07]	3
Verbal Analogies			Verbal Analogies		
	0.31 [0.13,	**<0.00**		-0.00 [-0.19,	0.98
T2	**0.48]**	**1**	T2	0.18]	4
	0.16 [-0.02,			0.10 [-0.08,	0.28
T3	0.34]	0.085	T3	0.28]	6
Word Definitions			**Word Definitions**		
	0.01 [-0.16,			0.04 [-0.14,	0.66
T2	0.18]	0.946	T2	0.21]	3
	0.20 [0.02,			**0.21 [0.03,**	**0.02**
T3	**0.38]**	**0.031**	T3	**0.39]**	**2**
Words Memory Delayed			**Words Memory Delayed**		
	-0.07 [-0.25,			**0.19 [0.01,**	**0.03**
T2	0.10]	0.412	T2	**0.37]**	**6**
	0.03 [-0.15,			0.11 [-0.08,	0.25
T3	0.22]	0.745	T3	0.29]	7
Words Memory Immediate			**Words Memory Immediate**		
	0.12 [-0.05,			**0.18 [0.00,**	**0.04**
T2	0.29]	0.179	T2	**0.36]**	**3**
	0.13 [-0.06,			0.08 [-0.10,	0.39
T3	0.32]	0.178	T3	0.25]	9

Note: Categorical aMED reference group is T1 (lowest tertile); T2=2nd tertile and T3=highest tertile. Bold Test indicates significant results ($p<0.05$). Abbreviation: aMED=adjusted Mediterranean diet; IPS=Information processing speed; SRT=Simple Reaction Time.

Supplementary Table S3. Sensitivity analysis using Winsorised Deviation from Expected (DfE) scores: associations with aMED and MIND diet scores

Total aMED			**Total MIND**		
Cognitive scores	***β* (95%CI)**	**p-value**	**Cognitive scores**	***β* (95%CI)**	**p-value**
G: Global	0.04 [-0.03, 0.10]	0.269	G: Global	0.07 [-0.00, 0.14]	0.052
PC0: Objects memory	-0.05 [-0.11, 0.02]	0.183	PC0: Objects memory	0.00 [-0.07, 0.07]	0.909
PC1: Problem solving	0.02 [-0.03, 0.08]	0.378	PC1: Problem solving	0.04 [-0.01, 0.09]	0.151
PC2: IPS	**-0.06 [-0.12, -0.01]**	**0.019**	PC2: IPS	-0.03 [-0.09, 0.02]	0.228
PC3: Words memory	0.03 [-0.02, 0.09]	0.237	**PC3: Words memory**	**0.06 [0.01, 0.12]**	**0.032**
2D Manipulations	-0.02 [-0.09, 0.05]	0.558	2D Manipulations	-0.02 [-0.09, 0.04]	0.520
Blocks	-0.03 [-0.11, 0.06]	0.527	Blocks	0.02 [-0.06, 0.10]	0.566
Card Pairs	-0.01 [-0.08, 0.05]	0.685	Card Pairs	0.02 [-0.04, 0.09]	0.471
Motor Control	**-0.10 [-0.20, -0.01]**	**0.030**	Motor Control	-0.06 [-0.16, 0.04]	0.254
Objects Memory Delayed	-0.03 [-0.10, 0.04]	0.404	Objects Memory Delayed	0.03 [-0.05, 0.11]	0.453
Objects Memory Immediate	-0.03 [-0.11, 0.04]	0.388	Objects Memory Immediate	0.00 [-0.08, 0.08]	0.946
SRT	**-0.12 [-0.24, -0.00]**	**0.046**	**SRT**	**-0.12 [-0.24, -0.01]**	**0.034**
Switching Stroop	0.05 [-0.03, 0.13]	0.188	Switching Stroop	0.07 [-0.00, 0.15]	0.061
Trail Making	-0.10 [-0.23, 0.02]	0.091	Trail Making	-0.08 [-0.21, 0.06]	0.253
Verbal Analogies	**0.07 [0.01, 0.13]**	**0.024**	Verbal Analogies	0.03 [-0.03, 0.09]	0.362
Word Definitions	**0.08 [0.02, 0.15]**	**0.017**	**Word Definitions**	**0.09 [0.02, 0.16]**	**0.010**
Words Memory Delayed	0.03 [-0.05, 0.10]	0.505	Words Memory Delayed	0.07 [-0.01, 0.15]	0.074
Words Memory Immediate	0.06 [-0.02, 0.14]	0.152	Words Memory Immediate	0.07 [-0.01, 0.15]	0.071
Categorical aMED			**Categorical MIND**		
Cognitive scores	***β* (95%CI)**	**p-value**	**Cognitive scores**	***β* (95%CI)**	**p-value**
G: Global			G: Global		
T2	0.03 [-0.13, 0.20]	0.696	T2	0.09 [-0.08, 0.25]	0.289

T3	0.08 [-0.08, 0.25]	0.326	T3	0.12 [-0.05, 0.29]	0.155
PC0: Objects memory			PC0: Objects memory		
T2	-0.12 [-0.29, 0.05]	0.154	T2	-0.01 [-0.18, 0.16]	0.915
T3	-0.10 [-0.27, 0.06]	0.223	T3	-0.05 [-0.23, 0.12]	0.549
PC1: Problem solving			PC1: Problem solving		
T2	0.01 [-0.12, 0.15]	0.868	T2	-0.08 [-0.22, 0.06]	0.264
T3	0.07 [-0.06, 0.21]	0.285	T3	0.08 [-0.06, 0.21]	0.247
PC2: IPS			**PC2: IPS**		
T2	**-0.18 [-0.30, -0.05]**	**0.005**	T2	**-0.13 [-0.26, -0.01]**	**0.046**
T3	-0.11 [-0.24, 0.03]	0.118	T3	-0.12 [-0.25, 0.02]	0.089
PC3: Words memory			**PC3: Words memory**		
T2	-0.01 [-0.15, 0.13]	0.845	T2	**0.19 [0.05, 0.32]**	**0.006**
T3	0.09 [-0.05, 0.24]	0.216	T3	0.10 [-0.04, 0.25]	0.151
2D Manipulations			2D Manipulations		
T2	0.02 [-0.14, 0.17]	0.836	T2	-0.03 [-0.20, 0.13]	0.694
T3	-0.09 [-0.27, 0.08]	0.290	T3	-0.04 [-0.21, 0.12]	0.608
Blocks			Blocks		
T2	-0.09 [-0.28, 0.10]	0.344	T2	-0.07 [-0.25, 0.12]	0.486
T3	-0.02 [-0.22, 0.18]	0.849	T3	0.07 [-0.13, 0.27]	0.502
Card Pairs			Card Pairs		
T2	-0.02 [-0.19, 0.15]	0.832	T2	0.05 [-0.12, 0.22]	0.565
T3	-0.03 [-0.21, 0.14]	0.726	T3	0.05 [-0.12, 0.22]	0.560
Motor Control			Motor Control		
T2	-0.20 [-0.43, 0.02]	0.079	T2	-0.19 [-0.42, 0.03]	0.090
T3	-0.21 [-0.43, 0.02]	0.075	T3	-0.14 [-0.39, 0.11]	0.184
Objects Memory Delayed			Objects Memory Delayed		
T2	-0.11 [-0.29, 0.07]	0.247	T2	0.02 [-0.16, 0.21]	0.804

T3	-0.08 [-0.26, 0.10]	0.388	T3	-0.00 [-0.19, 0.19]	0.990
Objects Memory Immediate			Objects Memory Immediate		
T2	-0.08 [-0.26, 0.10]	0.380	T2	-0.01 [-0.19, 0.17]	0.911
T3	-0.05 [-0.24, 0.14]	0.614	T3	-0.06 [-0.25, 0.14]	0.560
SRT			**SRT**		
T2	-0.11 [-0.39, 0.17]	0.429	**T2**	**-0.29 [-0.56, -0.01]**	**0.039**
T3	-0.22 [-0.51, 0.07]	0.141	**T3**	**-0.36 [-0.64, -0.07]**	**0.016**
Switching Stroop			Switching Stroop		
T2	-0.08 [-0.27, 0.11]	0.399	T2	-0.14 [-0.33, 0.06]	0.161
T3	0.16 [-0.03, 0.36]	0.101	T3	0.12 [-0.07, 0.31]	0.217
Trail Making			Trail Making		
T2	**-0.33 [-0.62, -0.03]**	**0.029**	T2	-0.15 [-0.45, 0.16]	0.356
T3	-0.23 [-0.56, 0.09]	0.163	T3	-0.19 [-0.52, 0.13]	0.245
Verbal Analogies			Verbal Analogies		
T2	**0.24 [0.10, 0.38]**	**<0.001**	T2	-0.01 [-0.16, 0.13]	0.851
T3	0.12 [-0.02, 0.27]	0.092	T3	0.07 [-0.08, 0.22]	0.340
Word Definitions			**Word Definitions**		
T2	0.03 [-0.13, 0.19]	0.717	T2	0.07 [-0.10, 0.23]	0.417
T3	**0.19 [0.02, 0.35]**	**0.024**	T3	**0.21 [0.04, 0.37]**	**0.016**
Words Memory Delayed			**Words Memory Delayed**		
T2	-0.09 [-0.28, 0.11]	0.383	T2	**0.22 [0.03, 0.40]**	**0.024**
T3	0.06 [-0.13, 0.26]	0.520	T3	0.12 [-0.07, 0.32]	0.219
Words Memory Immediate			**Words Memory Immediate**		
T2	0.12 [-0.06, 0.31]	0.193	T2	**0.19 [0.01, 0.38]**	**0.044**
T3	0.16 [-0.04, 0.37]	0.116	T3	0.10 [-0.09, 0.30]	0.311

Abbreviation: aMED=adjusted Mediterranean diet; IPS=Information processing speed;. SRT=Simple Reaction Time.

Subgroup analyses:

Supplementary Table S4. Examination of associations between aMED and cognition moderated by MS phenotype

Continuous aMED						
Cognitive diet score	**Non-progressive**		**Progressive**		**Group difference**	
	***β*(95%CIs)**	***p***	***β*(95%CIs)**	***p***	***β*(95%CIs)**	***p***
G: Global	0.01 [-0.08, 0.09]	0.866	0.06 [-0.06, 0.18]	0.332	0.05 (-0.09, 0.20)	0.471
PC0: Objects memory	-0.05 [-0.14, 0.04]	0.261	-0.06 [-0.18, 0.05]	0.270	0.00 (-0.15, 0.15)	0.984
Objects Memory Delayed	-0.03 [-0.13, 0.06]	0.502	-0.06 [-0.18, 0.06]	0.334	-0.01 (-0.18, 0.15)	0.873
Objects Memory Immediate	-0.07 [-0.17, 0.03]	0.196	-0.00 [-0.13, 0.12]	0.970	0.07 (-0.09, 0.23)	0.394
PC1: Problem solving	-0.02 [-0.08, 0.05]	0.662	0.05 [-0.05, 0.15]	0.293	0.06 (-0.06, 0.18)	0.361
2D Manipulations	-0.04 [-0.13, 0.05]	0.359	-0.00 [-0.12, 0.11]	0.962	0.04 (-0.11, 0.18)	0.621
Blocks	-0.06 [-0.16, 0.05]	0.298	-0.02 [-0.17, 0.12]	0.750	0.03 (-0.14, 0.20)	0.704
Card Pairs	-0.05 [-0.14, 0.04]	0.313	0.02 [-0.09, 0.14]	0.695	0.05 (-0.10, 0.20)	0.514
Switching Stroop	0.01 [-0.08, 0.10]	0.883	0.07 [-0.08, 0.21]	0.384	0.05 (-0.12, 0.22)	0.585
Verbal Analogies	0.07 [-0.00, 0.13]	0.066	0.06 [-0.04, 0.16]	0.229	0.04 (-0.09, 0.16)	0.551
Word Definitions	0.05 [-0.03, 0.14]	0.229	**0.14 [0.02, 0.25]**	**0.018**	0.08 -0.06, 0.23)	0.265
PC2: IPS	-0.05 [-0.11, 0.01]	0.115	-0.09 [-0.20, 0.03]	0.141	-0.05 (-0.16, 0.07)	0.448
Motor Control	-0.08 [-0.18, 0.03]	0.160	-0.14 [-0.35, 0.06]	0.169	-0.09 (-0.30, 0.12)	0.413
SRT	-0.11 [-0.26, 0.04]	0.148	-0.12 [-0.33, 0.10]	0.299	-0.04 (-0.28, 0.21)	0.779
Trail Making	-0.05 [-0.19, 0.09]	0.457	-0.21 [-0.50, 0.08]	0.163	-0.10 (-0.40, 0.20)	0.497
PC3: Words memory	0.04 [-0.03, 0.12]	0.280	0.04 [-0.06, 0.14]	0.435	-0.01 (-0.14, 0.11)	0.853
Words Memory Delayed	0.05 [-0.05, 0.15]	0.339	0.03 [-0.10, 0.16]	0.695	-0.03 (-0.20, 0.14)	0.696
Words Memory Immediate	0.03 [-0.07, 0.14]	0.521	0.09 [-0.06, 0.24]	0.235	0.04 (-0.13, 0.22)	0.985
Categorical aMED						
Cognitive diet score	**Non-progressive**		**Progressive**		**Group difference**	
	***β*(95%CIs)**	***p***	***β*(95%CIs)**	***p***	***β*(95%CIs)**	***p***
G: Global						
T2	-0.04 [-0.31, 0.12]	0.394	0.15 [-0.11, 0.41]	0.258	0.25 (-0.08, 0.58)	0.144
T3	0.04 [-0.16, 0.24]	0.695	0.15 [-0.15, 0.44]	0.332	0.14 (-0.21, 0.50)	0.431

PC0: Objects memory						
T2	-0.07 [-0.29, 0.16]	0.565	-0.27 [-0.55, 0.00]	0.065	-0.19 (-0.53, 0.15)	0.279
T3	-0.13 [-0.35, 0.09]	0.257	-0.15 [-0.43, 0.14]	0.319	0.01 (-0.36, 0.38)	0.971
Objects Memory Delayed						
T2	-0.08 [-0.33, 0.16]	0.496	-0.22 [-0.53, 0.08]	0.150	-0.12 (-0.49, 0.26)	0.546
T3	-0.10 [-0.34, 0.13]	0.392	-0.15 [-0.47, 0.17]	0.361	-0.02 (-0.43, 0.38)	0.907
Objects Memory Immediate						
T2	-0.09 [-0.34, 0.15]	0.443	-0.16 [-0.46, 0.13]	0.273	-0.06 (-0.44, 0.32)	0.759
T3	-0.15 [-0.40, 0.11]	0.271	0.03 [-0.27, 0.34]	0.838	0.18 (-0.22, 0.59)	0.376
PC1: Problem solving						
T2	-0.11 [-0.29, 0.07]	0.230	0.11 [-0.11, 0.33]	0.319	0.21 (-0.07, 0.48)	0.145
T3	-0.02 [-0.19, 0.15]	0.781	0.13 [-0.11, 0.37]	0.276	0.13 (-0.17, 0.43)	0.395
2D Manipulations						
T2	-0.13 [-0.33, 0.08]	0.220	0.16 [-0.07, 0.40]	0.174	0.28 (-0.06, 0.61)	0.108
T3	-0.18 [-0.41, 0.06]	0.137	0.03 [-0.26, 0.32]	0.838	0.20 (-0.16, 0.57)	0.281
Blocks						
T2	-0.27 [-0.52, 0.04]	0.097	0.08 [-0.23, 0.39]	0.610	0.36 (-0.03, 0.75)	0.073
T3	-0.12 [-0.37, 0.14]	0.379	0.01 [-0.35, 0.38]	0.945	0.12 (-0.30, 0.55)	0.569
Card Pairs						
T2	-0.14 [-0.38, 0.09]	0.237	0.10 [-0.16, 0.37]	0.431	0.23 (-0.12, 0.59)	0.197
T3	-0.11 [-0.35, 0.12]	0.342	0.07 [-0.21, 0.35]	0.629	0.14 (-0.24, 0.53)	0.458
Switching Stroop						
T2	-0.18 [-0.42, 0.05]	0.130	-0.05 [-0.38, 0.28]	0.774	0.11 (-0.28, 0.50)	0.567
T3	0.03 [-0.20, 0.26]	0.809	0.22 [-0.14, 0.58]	0.227	0.16 (-0.26, 0.58)	0.468
Verbal Analogies						
T2	**0.26 [0.06, 0.45]**	**0.010**	**0.22 [0.02, 0.41]**	**0.032**	0.06 (-0.23, 0.35)	0.699
T3	0.09 [-0.10, 0.28]	0.374	0.09 [-0.14, 0.32]	0.460	0.06 (-0.26, 0.37)	0.717
Word Definitions						
T2	0.06 [-0.16, 0.28]	0.596	-0.00 [-0.27, 0.27]	0.994	-0.06 (-0.40, 0.28)	0.731
T3	0.15 [-0.07, 0.37]	0.178	**0.27 [0.01, 0.53]**	**0.043**	0.13 (-0.24, 0.49)	0.501

PC2: IPS						
T2	-0.08 [-0.24, 0.07]	0.299	**-0.32 [-0.57, -0.08]**	**0.008 ^**	-0.24 (-0.51, 0.03)	0.083
T3	-0.09 [-0.24, 0.07]	0.260	-0.17 [-0.45, 0.10]	0.219	-0.09 (-0.39, 0.20)	0.526
Motor Control						
T2	-0.04 [-0.32, 0.24]	0.757	-0.43 [-0.90, 0.05]	0.077	-0.38 (-0.89, 0.11)	0.129
T3	-0.15 [-0.41, 0.11]	0.260	-0.36 [-0.86, 0.13]	0.153	-0.23 (-0.76, 0.30)	0.393
SRT						
T2	-0.10 [-0.43, 0.23]	0.563	-0.16 [-0.68, 0.35]	0.536	-0.11 (-0.68, 0.46)	0.709
T3	-0.22 [-0.59, 0.15]	0.252	-0.27 [-0.80, 0.26]	0.316	-0.10 (-0.72, 0.52)	0.748
Trail Making						
T2	-0.08 [-0.51, 0.35]	0.719	**-0.88 [-1.46, -0.29]**	**0.003 ^**	**-0.73 (-1.42, -0.05)**	**0.036**
T3	-0.20 [-0.59, 0.18]	0.304	-0.35 [-1.10, 0.40]	0.358	-0.03 (-0.77, 0.72)	0.946
PC3: Words memory						
T2	-0.10 [-0.28, 0.08]	0.281	0.14 [-0.09, 0.37]	0.244	0.24 (-0.05, 0.53)	0.103
T3	0.06 [-0.14, 0.25]	0.572	0.12 [-0.13, 0.38]	0.328	0.04 (-0.27, 0.35)	0.819
Words Memory Delayed						
T2	-0.12 [-0.37, 0.12]	0.329	0.05 [-0.28, 0.38]	0.771	0.18 (-0.21, 0.57)	0.366
T3	0.04 [-0.22, 0.29]	0.778	0.11 [-0.22, 0.45]	0.501	0.04 (-0.38, 0.47)	0.839
Words Memory Immediate						
T2	-0.12 [-0.36, 0.12]	0.326	**0.45 [0.14, 0.75]**	**0.004 ^**	**0.57 (0.17, 0.97)**	**0.006**
T3	0.08 [-0.20, 0.36]	0.583	0.21 [-0.15, 0.56]	0.257	0.09 (-0.34, 0.52)	0.687

Note: Categorical aMED reference group is T1 (lowest tertile); T2=2nd tertile and T3=highest tertile. Bold Test indicates significant results (p<0.05). Abbreviation: aMED=adjusted Mediterranean diet; IPS=Information processing speed. SRT=Simple Reaction Time.

Supplementary Table S5. Examination of associations between aMED and cognitive performance moderated by DMT use

Continuous aMED						
Cognitive diet score	**No DMTs**		**DMTs**		**Group difference**	
	***β*(95%CIs)**	***p***	***β*(95%CIs)**	***p***	***β*(95%CIs)**	***p***
G: Global	0.03 [-0.07, 0.13]	0.579	0.03 [-0.06, 0.12]	0.561	-0.00 (-0.14, 0.14)	0.988
PC0: Objects memory	-0.03 [-0.14, 0.08]	0.596	-0.08 [-0.17, 0.01]	0.099	-0.04 (-0.18, 0.10)	0.583
Objects Memory Delayed	-0.02 [-0.13, 0.10]	0.743	-0.06 [-0.16, 0.04]	0.235	-0.03 (-0.19, 0.12)	0.667
Objects Memory Immediate	-0.02 [-0.14, 0.10]	0.752	-0.06 [-0.17, 0.04]	0.243	-0.04 (-0.19, 0.12)	0.659
PC1: Problem solving	0.03 [-0.06, 0.12]	0.491	0.00 [-0.07, 0.07]	0.950	-0.03 (-0.15, 0.08)	0.571
2D Manipulations	0.03 [-0.07, 0.14]	0.550	-0.07 [-0.16, 0.03]	0.170	-0.11 (-0.25, 0.03)	0.122
Blocks	0.01 [-0.11, 0.14]	0.856	-0.07 [-0.19, 0.04]	0.212	-0.07 (-0.24, 0.09)	0.382
Card Pairs	-0.03 [-0.15, 0.08]	0.569	-0.00 [-0.09, 0.09]	0.967	0.04 (-0.11, 0.19)	0.598
Switching Stroop	-0.01 [-0.13, 0.12]	0.923	0.06 [-0.04, 0.16]	0.245	0.06 (-0.10, 0.22)	0.477
Verbal Analogies	0.07 [-0.02, 0.17]	0.136	0.05 [-0.03, 0.13]	0.264	-0.04 (-0.16, 0.08)	0.542
Word Definitions	0.09 [-0.02, 0.21]	0.114	0.08 [-0.01, 0.17]	0.070	-0.02 (-0.16, 0.12)	0.798
PC2: IPS	-0.06 [-0.15, 0.03]	0.198	-0.06 [-0.14, 0.01]	0.091	0.01 (-0.11, 0.12)	0.975
Motor Control	-0.07 [-0.23, 0.09]	0.394	-0.12 [-0.24, 0.01]	0.061	-0.05 (-0.25, 0.16)	0.657
SRT	-0.03 [-0.21, 0.15]	0.758	-0.08 [-0.34, -0.01]	0.117	-0.13 (-0.37, 0.11)	0.286
Trail Making	-0.14 [-0.37, 0.09]	0.222	-0.09 [-0.26, 0.09]	0.327	0.07 (-0.22, 0.36)	0.638
PC3: Words memory	-0.01 [-0.11, 0.09]	0.790	0.08 [-0.01, 0.15]	0.059	0.10 (-0.02, 0.23)	0.101
Words Memory Delayed	-0.03 [-0.16, 0.10]	0.649	0.09 [-0.02, 0.20]	0.095	0.13 (-0.03, 0.30)	0.121
Words Memory Immediate	0.04 [-0.11, 0.18]	0.624	0.07 [-0.03, 0.18]	0.170	0.05 (-0.12, 0.22)	0.581
Categorical aMED						
Cognitive diet score	**No DMTs**		**DMTs**		**Group difference**	
	***β*(95%CIs)**	***p***	***β*(95%CIs)**	***p***	***β*(95%CIs)**	***p***
G: Global						
T2	0.14 [-0.10, 0.39]	0.243	-0.11 [-0.34, 0.12]	0.362	-0.39 (-0.61, 0.03)	0.071
T3	0.03 [-0.24, 0.29]	0.838	0.06 [-0.15, 0.28]	0.564	-0.01 (-0.37, 0.34)	0.951
PC0: Objects memory						

T2	-0.13 [-0.38, 0.12]	0.297	-0.17 [-0.42, 0.07]	0.156	-0.06 (-0.39, 0.28)	0.733
T3	-0.09 [-0.36, 0.18]	0.517	-0.15 [-0.39, 0.08]	0.189	-0.07 (-0.44, 0.31)	0.731
Objects Memory Delayed						
T2	-0.09 [-0.36, 0.19]	0.540	-0.20 [-0.47, 0.06]	0.136	-0.13 (-0.50, 0.23)	0.474
T3	-0.09 [-0.39, 0.21]	0.571	-0.13 [-0.38, 0.12]	0.299	-0.04 (-0.45, 0.36)	0.832
Objects Memory Immediate						
T2	-0.06 [-0.33, 0.21]	0.654	-0.16 [-0.43, 0.10]	0.228	-0.13 (-0.50, 0.24)	0.485
T3	-0.05 [-0.35, 0.25]	0.739	-0.10 [-0.36, 0.17]	0.471	-0.09 (-0.50, 0.32)	0.678
PC1: Problem solving						
T2	0.09 [-0.11, 0.29]	0.394	-0.13 [-0.31, 0.06]	0.187	-0.25 (-0.53, 0.02)	0.069
T3	0.06 [-0.16, 0.28]	0.587	0.01 [-0.17, 0.19]	0.928	-0.10 (-0.41, 0.20)	0.501
2D Manipulations						
T2	0.19 [-0.02, 0.41]	0.080	-0.20 [-0.43, 0.02]	0.076	**-0.44 (-0.81, -0.08)**	**0.016**
T3	0.08 [-0.19, 0.34]	0.575	-0.23 [-0.48, 0.02]	0.068	-0.37 (-0.76, 0.02)	0.065
Blocks						
T2	-0.03 [-0.31, 0.25]	0.818	-0.24 [-0.51, 0.03]	0.081	-0.23 (-0.62, 0.15)	0.235
T3	0.07 [-0.26, 0.39]	0.691	-0.17 [-0.45, 0.11]	0.234	-0.20 (-0.63, 0.23)	0.356
Card Pairs						
T2	0.07 [-0.18, 0.32]	0.598	-0.11 [-0.37, 0.14]	0.386	-0.16 (-0.51, 0.19)	0.369
T3	-0.12 [-0.40, 0.17]	0.425	0.01 [-0.23, 0.24]	0.955	0.15 (-0.24, 0.53)	0.448
Switching Stroop						
T2	-0.04 [-0.32, 0.25]	0.799	-0.22 [-0.48, 0.05]	0.108	-0.26 (-0.64, 0.11)	0.168
T3	0.01 [-0.31, 0.32]	0.965	0.16 [-0.10, 0.41]	0.222	0.03 (-0.39, 0.44)	0.905
Verbal Analogies						
T2	**0.26 [0.06, 0.45]**	**0.010**	**0.24 [0.03, 0.45]**	**0.024**	-0.05 (-0.33, 0.23)	0.731
T3	0.12 [-0.11, 0.34]	0.299	0.08 [-0.12, 0.28]	0.421	-0.06 (-0.36, 0.25)	0.725
Word Definitions						
T2	-0.02 [-0.28, 0.24]	0.873	0.09 [-0.13, 0.31]	0.430	0.07 (-0.25, 0.40)	0.655
T3	0.17 [-0.09, 0.43]	0.201	0.22 [-0.01, 0.45]	0.059	0.03 (-0.33, 0.38)	0.889
PC2: IPS						

T2	**-0.25 [-0.45, -0.05]**	**0.015**	-0.12 [-0.30, 0.06]	0.184	0.15 (-0.11, 0.41)	0.257
T3	-0.12 [-0.35, 0.11]	0.315	-0.13 [-0.31, 0.05]	0.150	0.03 (-0.27, 0.32)	0.863
Motor Control						
T2	-0.29 [-0.67, 0.09]	0.130	-0.12 [-0.45, 0.21]	0.474	0.24 (-0.24, 0.73)	0.324
T3	-0.20 [-0.62, 0.22]	0.349	-0.26 [-0.56, 0.03]	0.076	0.02 (-0.52, 0.56)	0.953
SRT						
T2	-0.02 [-0.46, 0.42]	0.926	-0.25 [-0.62, 0.13]	0.194	-0.15 (-0.71, 0.40)	0.591
T3	-0.04 [-0.53, 0.46]	0.884	**-0.41 [-0.80, -0.02]**	**0.040**	-0.32 (-0.94, 0.29)	0.304
Trail Making						
T2	**-0.66 [-1.20, -0.12]**	**0.017 ^**	-0.10 [-0.54, 0.34]	0.665	0.52 [-0.12, 1.16]	0.112
T3	-0.27 [-0.89, 0.36]	0.403	-0.23 [-0.67, 0.22]	0.317	0.17 (-0.59, 0.92)	0.668
PC3: Words memory						
T2	0.09 [-0.11, 0.28]	0.392	-0.03 [-0.23, 0.18]	0.803	-0.10 (-0.38, 0.18)	0.489
T3	-0.07 [-0.33, 0.19]	0.607	0.18 [-0.01, 0.37]	0.070	0.26 (-0.05, 0.57)	0.095
Words Memory Delayed						
T2	0.03 [-0.25, 0.31]	0.826	-0.07 [-0.34, 0.21]	0.634	-0.05 (-0.43, 0.33)	0.808
T3	-0.12 [-0.44, 0.20]	0.455	0.18 [-0.08, 0.44]	0.177	0.31 (-0.10, 0.73)	0.139
Words Memory Immediate						
T2	**0.33 [0.07, 0.60]**	**0.012 ^**	-0.10 [-0.39, 0.19]	0.508	**-0.43 (-0.82, -0.05)**	**0.029**
T3	0.08 [-0.30, 0.46]	0.678	0.19 [-0.08, 0.45]	0.162	0.18 (-0.24, 0.61)	0.459

Note: Categorical aMED reference group is T1 (lowest tertile); T2=2nd tertile and T3=highest tertile. Bold Test indicates significant results (p<0.05). Abbreviation: aMED=adjusted Mediterranean diet; IPS=Information processing speed. SRT=Simple Reaction Time.

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Supplementary Table S6. Examination of associations between MIND diet scores and cognition moderated by MS phenotype

Continuous MIND						
Cognitive score	**Non-progressive**		**Progressive**		**Group difference**	
	***β*(95%CIs)**	***p***	***β*(95%CIs)**	***p***	***β*(95%CIs)**	***p***
G: Global	0.04 [-0.04, 0.13]	0.346	0.10 [-0.02, 0.24]	0.093	0.07 (-0.07, 0.21)	0.318
PC0: Objects memory	-0.02 [-0.11, 0.08]	0.707	0.07 [-0.05, 0.18]	0.235	0.08 (-0.07, 0.23)	0.301
Objects Memory Delayed	-0.00 [-0.10, 0.10]	0.981	0.11 [-0.01, 0.23]	0.086	0.09 (-0.07, 0.25)	0.264
Objects Memory Immediate	-0.02 [-0.13, 0.09]	0.771	0.07 [-0.05, 0.20]	0.253	0.08 (-0.08, 0.25)	0.308
PC1: Problem solving	0.03 [-0.04, 0.09]	0.411	0.06 [-0.04, 0.16]	0.218	0.02 (-0.10, 0.14)	0.771
2D Manipulations	-0.02 [-0.10, 0.07]	0.709	0.00 [-0.10, 0.11]	0.960	-0.01 (-0.15, 0.14)	0.939
Blocks	0.01 [-0.09, 0.11]	0.874	0.03 [-0.11, 0.17]	0.690	0.02 (-0.15, 0.18)	0.841
Card Pairs	-0.01 [-0.09, 0.08]	0.867	0.08 [-0.03, 0.19]	0.165	0.08 (-0.07, 0.23)	0.267
Switching Stroop	0.06 [-0.03, 0.15]	0.213	0.07 [-0.06, 0.21]	0.296	-0.00 (-0.17, 0.16)	0.968
Verbal Analogies	0.04 [-0.04, 0.11]	0.350	0.03 [-0.07, 0.12]	0.584	-0.03 (-0.16, 0.10)	0.642
Word Definitions	0.04 [-0.05, 0.13]	0.406	**0.15 [0.05, 0.25]**	**0.004** ^	0.13 (-0.02, 0.27)	0.079
PC2: IPS	-0.04 [-0.11, 0.02]	0.182	-0.04 [-0.15, 0.07]	0.501	0.02 (-0.10, 0.14)	0.727
Motor Control	-0.06 [-0.17, 0.05]	0.300	-0.06 [-0.27, 0.16]	0.599	0.02 (-0.20, 0.23)	0.888
SRT	-0.11 [-0.24, 0.03]	0.117	-0.13 [-0.33, 0.07]	0.200	-0.01 (-0.25, 0.24)	0.962
Trail Making	-0.11 [-0.26, 0.04]	0.138	-0.07 [-0.35, 0.21]	0.610	0.07 (-0.23, 0.37)	0.642
PC3: Words memory	0.03 [-0.04, 0.10]	0.386	**0.11 [0.02, 0.20]**	**0.021**	0.09 (-0.03, 0.21)	0.167
Words Memory Delayed	0.05 [-0.05, 0.14]	0.334	**0.13 [0.01, 0.25]**	**0.042**	0.09 (-0.08, 0.26)	0.297
Words Memory Immediate	0.02 [-0.08, 0.13]	0.644	0.15 [-0.01, 0.28]	0.057	0.14 (-0.03, 0.30)	0.109
Categorical MIND						
Cognitive score	**Non-progressive**		**Progressive**		**Group difference**	
	***β*(95%CIs)**	***p***	***β*(95%CIs)**	***p***	***β*(95%CIs)**	***p***
G: Global						
T2	0.02 [-0.19, 0.23]	0.839	**0.28 [0.01, 0.54]**	**0.041**	0.30 (-0.04, 0.63)	0.079
T3	0.09 [-0.13, 0.31]	0.424	0.21 [-0.04, 0.56]	0.127	0.20 (-0.14, 0.53)	0.262
PC0: Objects memory						

T2	-0.07 [-0.30, 0.16]	0.549	0.11 [-0.16, 0.38]	0.428	0.20 (-0.15, 0.55)	0.341
T3	-0.12 [-0.36, 0.12]	0.330	0.15 [-0.13, 0.43]	0.303	0.27 (-.08, 0.63)	0.166
Objects Memory Delayed						
T2	-0.06 [-0.31, 0.18]	0.610	0.21 [-0.10, 0.51]	0.180	0.29 (-0.09, 0.67)	0.139
T3	-0.09 [-0.35, 0.17]	0.502	0.25 [-0.06, 0.55]	0.089	0.34 (-0.05, 0.73)	0.089
Objects Memory Immediate						
T2	-0.03 [-0.28, 0.22]	0.805	0.09 [-0.20, 0.38]	0.522	0.14 (-0.25, 0.52)	0.491
T3	-0.08 [-0.35, 0.19]	0.550	0.12 [-0.18, 0.42]	0.442	0.20 (-0.19, 0.59)	0.321
PC1: Problem solving						
T2	-0.08 [-0.27, 0.10]	0.368	0.06 [-0.17, 0.28]	0.627	0.10 (-0.19, 0.38)	0.388
T3	0.09 [-0.09, 0.27]	0.313	0.10 [-0.13, 0.32]	0.407	-0.06 (-0.34, 0.23)	0.699
2D Manipulations						
T2	-0.02 [-0.24, 0.20]	0.845	0.16 [-0.12, 0.44]	0.275	0.12 (-0.22, 0.47)	0.425
T3	0.01 [-0.22, 0.24]	0.924	0.01 [-0.24, 0.26]	0.941	-0.03 (-0.38, 0.32)	0.868
Blocks						
T2	-0.15 [-0.39, 0.09]	0.225	0.17 [-0.15, 0.48]	0.300	0.29 (-0.11, 0.69)	0.155
T3	0.09 [-0.17, 0.34]	0.497	-0.02 [-0.36, 0.32]	0.923	-0.14 (-0.54, 0.26)	0.495
Card Pairs						
T2	-0.05 [-0.29, 0.20]	0.693	0.19 [-0.08, 0.46]	0.161	0.20 (-0.16, 0.56)	0.283
T3	-0.02 [-0.24, 0.21]	0.882	0.21 [-0.05, 0.47]	0.112	0.19 (-0.17, 0.56)	0.296
Switching Stroop						
T2	-0.18 [-0.42, 0.05]	0.131	0.05 [-0.29, 0.38]	0.781	0.22 (-0.17, 0.62)	0.263
T3	0.12 [-0.12, 0.36]	0.342	0.12 [-0.21, 0.45]	0.490	-0.04 (-0.44, 0.36)	0.838
Verbal Analogies						
T2	0.03 [-0.18, 0.23]	0.783	-0.00 [-0.21, 0.21]	0.998	-0.08 (-0.38, 0.22)	0.605
T3	0.08 [-0.12, 0.28]	0.423	0.10 [-0.11, 0.31]	0.358	-0.05 (-0.35, 0.26)	0.757
Word Definitions						
T2	-0.02 [-0.24, 0.19]	0.824	0.22 [-0.06, 0.50]	0.119	0.24 (-0.10, 0.59)	0.171
T3	0.11 [-0.12, 0.34]	0.334	**0.41 [0.17, 0.66]**	**0.005** ^	0.25 (-0.10, 0.60)	0.162
PC2: IPS						

T2	-0.10 [-0.25, 0.06]	0.239	**-0.24 [-0.48, -0.00]**	**0.049**	-0.16 (-0.44, 0.12)	0.254
T3	-0.15 [-0.31, 0.01]	0.065	-0.15 [-0.41, 0.11]	0.260	0.01 (-0.28, 0.29)	0.841
Motor Control						
T2	0.00 [-0.28, 0.29]	0.976	**-0.51 [-0.95, -0.08]**	**0.020**	-0.55 (-1.06, -0.05)	0.085
T3	-0.14 [-0.41, 0.13]	0.308	-0.22 [-0.72, 0.29]	0.403	-0.13 (-0.65, 0.38)	0.611
SRT						
T2	-0.16 [-0.49, 0.18]	0.367	-0.47 [-0.96, 0.03]	0.066	-0.37 (-0.94, 0.20)	0.204
T3	-0.23 [-0.60, 0.15]	0.231	-0.45 [-0.96, 0.05]	0.079	-0.06 (-0.63, 0.52)	0.851
Trail Making						
T2	-0.32 [-0.74, 0.10]	0.133	-0.27 [-0.89, 0.35]	0.394	0.11 (-0.60, 0.82)	0.765
T3	-0.25 [-0.61, 0.12]	0.184	-0.12 [-0.76, 0.52]	0.713	0.36 (-0.36, 1.08)	0.323
PC3: Words memory						
T2	0.15 [-0.04, 0.33]	0.118	**0.32 [0.10, 0.53]**	**0.004** ^	0.16 (-0.13, 0.46)	0.268
T3	0.04 [-0.14, 0.23]	0.643	**0.25 [0.02, 0.47]**	**0.030**	0.26 (-0.04, 0.56)	0.084
Words Memory Delayed						
T2	-0.16 [-0.40, 0.46]	0.188	**0.36 [0.05, 0.67]**	**0.024**	0.13 (-0.27, 0.53)	0.521
T3	0.09 [-0.16, 0.35]	0.469	0.29 [-0.03, 0.60]	0.072	0.26 (-0.14, 0.67)	0.201
Words Memory Immediate						
T2	0.09 [-0.16, 0.34]	0.488	**0.42 [0.11, 0.73]**	**0.005** ^	**0.42 [0.02, 0.83]**	**0.041**
T3	-0.02 [-0.28, 0.23]	0.864	0.30 [-0.00, 0.66]	0.053	0.36 [-0.05, 0.78]	0.085

Note: Categorical MIND reference group is T1 (lowest tertile); T2=2nd tertile and T3=highest tertile. Bold Test indicates significant results (p<0.05). Models were adjusted for total energy intake, disease duration and DMT use. Abbreviation: MIND=Mediterranean-DASH Intervention for Neurodegenerative Delay; IPS=information processing speed; SRT=Simple Reaction Time.

3.

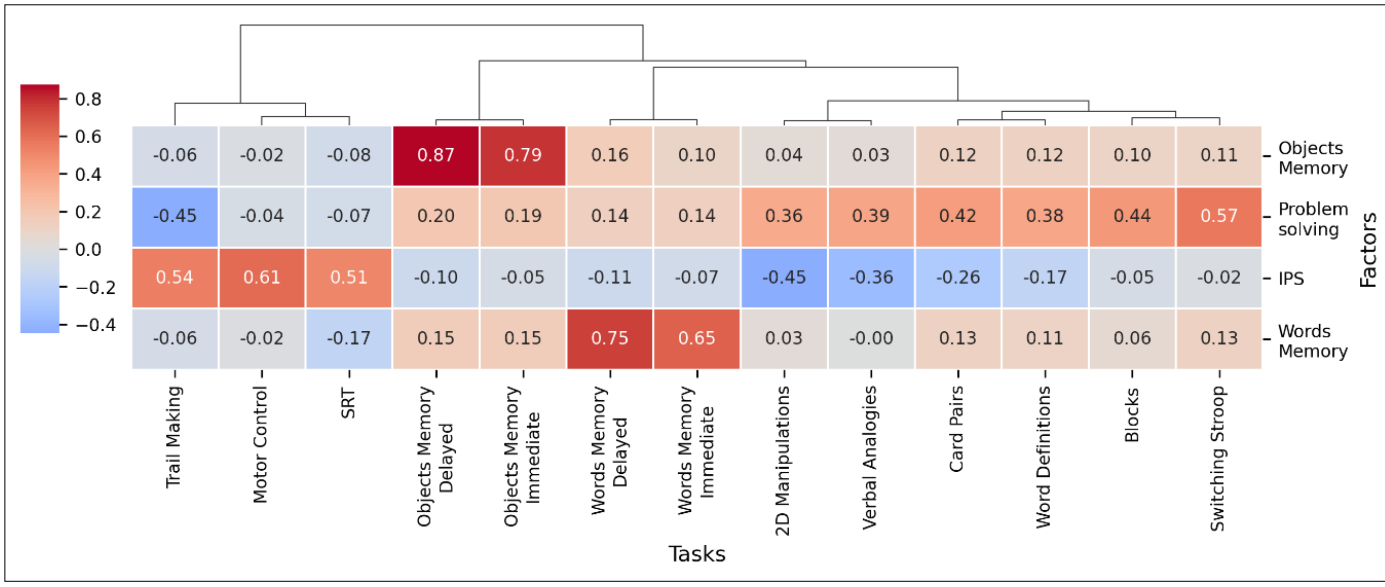
Supplementary Table S7. Subgroup analyses: Associations between MIND and cognitive performance between DMT use vs no DMT use.

Continuous MIND						
Cognitive diet score	**No DMTs**		**DMTs**		**Group difference**	
	***β*(95%CIs)**	***p***	***β*(95%CIs)**	***p***	***β*(95%CIs)**	***p***
G: Global	**0.22 [0.05, 0.40]**	**0.014**	**-0.02 [-0.11, 0.08]**	**0.735**	**-0.25 (-0.44, -0.06)**	**0.009**
PC0: Object memory	0.10 [-0.11, 0.31]	0.333	-0.06 [-0.16, 0.05]	0.281	-0.15 (-0.35, 0.05)	0.131
Objects Memory Delayed	0.14 [-0.09, 0.37]	0.240	-0.05 [-0.16, 0.06]	0.410	-0.19 (-0.41, 0.03)	0.090
Objects Memory Immediate	0.17 [-0.06, 0.39]	0.150	-0.08 [-0.19, 0.04]	0.200	**-0.24 (-0.46, -0.01)**	**0.040**
PC1: Problem solving	**0.15 [0.02, 0.27]**	**0.021**	-0.00 [-0.07, 0.07]	0.930	-0.15 (-0.31, 0.00)	0.060
2D Manipulations	0.13 [-0.03, 0.28]	0.110	-0.06 [-0.15, 0.03]	0.210	**-0.21 (-0.41, -0.00)**	**0.050**
Blocks	**0.21 [0.05, 0.37]**	**0.011**	-0.06 [-0.17, 0.06]	0.320	**-0.26 (-0.48, -0.05)**	**0.020**
Card Pairs	0.01 [-0.16, 0.18]	0.872	0.00 [-0.10, 0.10]	1.001	-0.03 (-0.24, 0.18)	0.780
Switching Stroop	0.15 [-0.04, 0.35]	0.121	0.06 [-0.05, 0.17]	0.260	-0.08 (-0.29, 0.14)	0.480
Verbal Analogies	0.04 [-0.11, 0.19]	0.601	0.04 [-0.05, 0.13]	0.420	-0.03 (-0.21, 0.15)	0.760
Word Definitions	**0.22 [0.02, 0.43]**	**0.028**	-0.01 [-0.11, 0.08]	0.760	**-0.22 (-0.42, -0.03)**	**0.030**
PC2: IPS	-0.11 [-0.27, 0.06]	0.201	-0.03 [-0.10, 0.04]	0.440	0.09 (-0.04, 0.23)	0.210
Motor Control	-0.09 [-0.36, 0.18]	0.511	-0.07 [-0.19, 0.06]	0.311	0.03 (-0.21, 0.27)	0.810
SRT	-0.33 [-0.68, 0.01]	0.059	-0.08 [-0.24, 0.08]	0.321	0.22 (-0.08, 0.53)	0.150
Trail Making	**-0.32 [-0.61, -0.04]**	**0.025**	-0.01 [-0.18, 0.15]	0.861	0.34 (-0.01, 0.69)	0.051
PC3: Words memory	0.08 [-0.06, 0.21]	0.281	-0.00 [-0.08, 0.08]	0.960	-0.10 (-0.27, 0.06)	0.230
Words Memory Delayed	0.06 [-0.11, 0.24]	0.492	0.01 [-0.09, 0.12]	0.800	-0.08 (-0.31, 0.14)	0.450
Words Memory Immediate	0.21 [-0.02, 0.43]	0.068	-0.05 [-0.16, 0.06]	0.342	**-0.29 (-0.52, -0.05)**	**0.020**
Categorical MIND						
Cognitive diet score	No DMTs		DMTs		Group difference	
	β(95%CIs)	*p*	*β*(95%CIs)	*p*	*β*(95%CIs)	*p*
G: Global						
T2	0.39 [-0.05, 0.83]	0.080	-0.14 [-0.38, 0.09]	0.237	**-0.58 (-1.02, -0.13)**	**0.011**
T3	0.40 [-0.04, 0.84]	0.075	-0.03 [-0.27, 0.21]	0.815	-0.48 (-0.97, 0.01)	0.054
PC0: Objects memory						

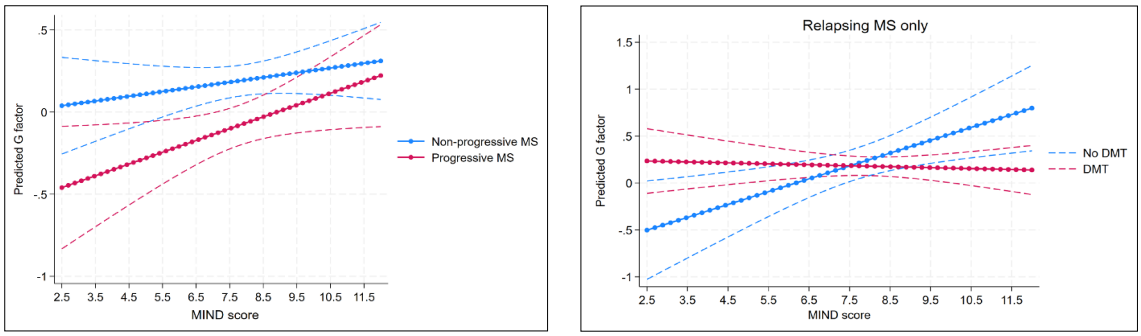
T2	0.20 [-0.21, 0.60]	0.345	-0.13 [-0.39, 0.13]	0.330	-0.35 (-0.82, 0.12)	0.151
T3	0.02 [-0.51, 0.54]	0.954	-0.13 [-0.40, 0.14]	0.336	-0.16 (-0.67, 0.36)	0.553
Objects Memory Delayed						
T2	0.20 [-0.26, 0.67]	0.392	-0.13 [-0.41, 0.14]	0.344	-0.38 (-0.90, 0.13)	0.144
T3	0.03 [-0.54, 0.61]	0.911	-0.10 [-0.39, 0.18]	0.479	-0.18 (-0.75, 0.38)	0.530
Objects Memory Immediate						
T2	0.40 [-0.05, 0.86]	0.084	-0.18 [-0.47, 0.10]	0.209	**-0.60 (-1.11, -0.07)**	**0.027**
T3	0.27 [-0.30, 0.83]	0.355	-0.18 [-0.47, 0.11]	0.229	-0.43 (-1.01, 0.14)	0.141
PC1: Problem solving						
T2	0.17 [-0.19, 0.52]	0.360	-0.19 [-0.39, 0.01]	0.059	-0.36 (-0.74, 0.01)	0.058
T3	0.24 [-0.14, 0.62]	0.221	0.05 [-0.13, 0.24]	0.582	-0.19 (-0.60, 0.22)	0.356
2D Manipulations						
T2	0.29 [-0.13, 0.71]	0.170	-0.19 [-0.45, 0.06]	0.140	-0.50 (-0.98, -0.02)	0.042
T3	0.23 [-0.15, 0.61]	0.242	-0.08 [-0.36, 0.19]	0.545	-0.34 (-0.86, 0.19)	0.211
Blocks						
T2	0.07 [-0.33, 0.46]	0.744	-0.27 [-0.55, 0.01]	0.061	-0.33 (-0.85, 0.18)	0.204
T3	0.39 [-0.10, 0.88]	0.121	-0.00 [-0.29, 0.28]	0.980	-0.39 (-0.95, 0.18)	0.177
Card Pairs						
T2	-0.16 [-0.60, 0.28]	0.486	0.03 [-0.25, 0.31]	0.848	0.15 (-0.35, 0.65)	0.556
T3	-0.09 [-0.56, 0.38]	0.703	0.03 [-0.22, 0.29]	0.786	0.08 (-0.47, 0.63)	0.781
Switching Stroop						
T2	0.13 [-0.31, 0.58]	0.558	-0.28 [-0.57, 0.01]	p=0.059	-0.37 (-0.88, 0.13)	0.145
T3	0.17 [-0.37, 0.70]	0.540	0.14 [-0.14, 0.41]	0.326	-0.03 (-0.58, 0.52)	0.902
Verbal Analogies						
T2	0.13 [-0.28, 0.53]	0.532	-0.02 [-0.25, 0.22]	0.888	-0.17 (-0.60, 0.26)	0.433
T3	0.13 [-0.31, 0.56]	0.567	0.07 [-0.15, 0.30]	0.527	-0.03 (-0.50, 0.44)	0.906
Word Definitions						
T2	0.21 [-0.26, 0.69]	0.380	-0.10 [-0.33, 0.13]	0.396	-0.26 (-0.72, 0.20)	0.265
T3	0.40 [-0.10, 0.90]	0.118	0.02 [-0.23, 0.27]	0.890	-0.38 (-0.89, 0.12)	0.137
PC2: IPS						

T2	-0.34 [-0.69, 0.02]	0.063	0.00 [-0.17, 0.18]	0.975	**0.35 (0.02, 0.68)**	**0.036**
T3	**-0.38 [-0.72, -0.04]**	**0.027**	-0.05 [-0.23, 0.13]	0.558	0.34 (-0.02, 0.70)	0.067
Motor Control						
T2	-0.19 [-0.72, 0.35]	0.493	0.05 [-0.29, 0.38]	0.776	0.24 (-0.33, 0.81)	0.413
T3	-0.32 [-0.88, 0.24]	0.266	-0.07 [-0.37, 0.24]	0.667	0.25 (-0.38, 0.88)	0.431
SRT						
T2	-0.69 [-1.46, 0.07]	0.075	0.01 [-0.36, 0.38]	0.965	0.64 (-0.07, 1.35)	0.079
T3	**-1.08 [-1.89, -0.27]**	**0.009**	-0.17 [-0.57, 0.23]	0.397	**0.81 (0.03, 1.60)**	**0.042**
Trail Making						
T2	**-1.18 [-2.18, -0.18]**	**0.021**	0.10 [-0.25, 0.46]	0.578	**1.35 (0.55, 2.15)**	**0.001**
T3	**-1.07 [-1.99, -0.16]**	**0.022**	-0.11 [-0.50, 0.27]	0.560	**1.03 (0.14, 1.91)**	**0.023**
PC3: Words memory						
T2	0.07 [-0.26, 0.40]	0.689	0.09 [-0.13, 0.31]	0.406	-0.04 (-0.43, 0.36)	0.854
T3	0.15 [-0.18, 0.49]	0.374	-0.06 [-0.27, 0.15]	0.570	-0.31 (-0.74, 0.12)	0.161
Words Memory Delayed						
T2	0.07 [-0.40, 0.53]	0.775	0.19 [-0.10, 0.48]	0.206	0.12 (-0.40, 0.64)	0.658
T3	0.21 [-0.25, 0.67]	0.366	0.00 [-0.29, 0.30]	0.979	-0.21 (-0.79, 0.36)	0.461
Words Memory Immediate						
T2	**0.52 [0.02, 1.01]**	**0.040**	-0.12 [-0.42, 0.18]	0.424	**-0.62 (-1.17, -0.07)**	**0.028**
T3	**0.54 [0.04, 1.04]**	**0.035**	-0.24 [-0.52, 0.05]	0.101	**-0.77 (-1.37, -0.16)**	**0.015**

Note: Categorical aMED reference group is T1 (lowest tertile); T2=2nd tertile and T3=highest tertile. Bold Test indicates significant results ($p<0.05$). Abbreviation: MIND=Mediterranean-DASH Intervention for Neurodegenerative Delay; IPS=Information processing speed. SRT=Simple Reaction Time.



Supplementary Figure S1. Factor analysis of primary cognitive tasks identifying global and domain-specific components



Supplementary Figure S2. Adjusted global cognitive performance (G factor) across MIND diet scores, stratified by MS phenotype (left) and DMT use in relapsing individuals (right).

Note:

Left panel: As MIND scores increase, predicted overall cognition (G factor) increases in both groups. The lines appear to draw closer together at higher scores, indicating smaller differences in overall cognition between progressive and relapsing MS. However, the MIND × MS phenotype interaction was not statistically significant ($p > 0.05$).

Right panel: In relapsing MS, not using a DMT, MIND score was associated with higher overall cognition (G factor), whereas the association is near-zero among DMT users; p for interaction (difference in slopes)=0.009. Models adjust for MS phenotype, disease duration, and total energy intake.