

**Supplementary Table A.** Comparison of baseline characteristics between the enriched and the traditional premanifest samples using the Multivariate Risk Score (MRS)

	<b>Enriched Sample</b>	<b>Traditional Sample</b>	<b><i>p</i>-value</b>
<b>Age</b>			<0.0001
Mean (SD)	48.63 (11.06)	39.06 (9.93)	
<b>CAG</b>			<0.0001
Mean (SD)	43.98 (3.25)	41.88 (2.22)	
<b>TMS</b>			<0.0001
Mean (SD)	10.40 (6.16)	2.93 (3.12)	
<b>Stroop Word</b>			<0.0001
Mean (SD)	86.93 (15.89)	103.12 (15.92)	
<b>Stroop Color</b>			<0.0001
Mean (SD)	67.75 (13.17)	80.67 (12.45)	
<b>Stroop Interference</b>			<0.0001
Mean (SD)	37.39 (8.50)	47.28 (9.64)	
<b>SDMT</b>			<0.0001
Mean (SD)	41.26 (9.11)	54.03 (10.50)	
<b>Sex</b>			0.5733
male: n (%)	93 (37.5%)	258 (35.3%)	
female: n (%)	155 (62.5%)	474 (64.7%)	

<b>CAP</b>			<0.0001
low: n (%)	3 (1.2%)	278 (38.0%)	
med: n (%)	37 (14.9%)	304 (41.5%)	
high: n (%)	208 (83.9%)	150 (20.5%)	
<b>DCL</b>			<0.0001
0: n (%)	11 (4.4%)	376 (51.4%)	
1: n (%)	121 (48.8%)	302 (41.3%)	
2: n (%)	73 (29.4%)	53 (7.2%)	
3: n (%)	43 (17.4%)	1 (0.1%)	

CAG=cytosine adenine guanine repeat length; TMS=Total Motor Score; SDMT = Symbol Digit

Modalities Test; CAP = CAG by Age Product; DCL = Diagnostic Confidence Level

**Supplementary Table B.** Comparison of brain structural volume data at study entry between the enriched and traditional samples

Variable	Baseline Mean		Percent Difference (Traditional – Enriched sample) /Enriched sample (%)	<i>p</i> -value
	Enriched Sample	Traditional Sample		
Putamen	0.00378	0.00495	30.95	<0.0001
Globus	0.00116	0.00152	31.03	<0.0001
Caudate	0.00303	0.00385	27.06	<0.0001
Accumbens	0.00035	0.00043	22.86	<0.0001
CSF	0.0864	0.0712	-17.59	<0.0001
Thalamus	0.01099	0.01129	2.73	0.0001
Cgm	0.26632	0.27102	1.76	0.0002
Frontal_g	0.05485	0.05622	2.50	0.0003
Temporal_g	0.06609	0.06749	2.12	0.0004
Cwm	0.36068	0.36645	1.60	0.0010
Occipital_g	0.03973	0.04049	1.91	0.0077
Occipital_w	0.02821	0.02880	2.09	0.0084
Temporal_w	0.04479	0.04543	1.43	0.0103
Frontal_w	0.13824	0.13999	1.27	0.0244
Parietal_g	0.06490	0.06571	1.25	0.0498

Parietal_w	0.08713	0.08806	1.07	0.0698
Hippocampus	0.00517	0.00519	0.39	0.6473

CSF = cerebral spinal fluid; Cgm = Cortical gray matter; g = gray matter; Cwm = Cortical white matter; w = white matter;

**Supplementary Table C.** Longitudinal analysis for comparing the brain volume loss between enriched and traditional samples

Variable	Percent Annual Change		Percent Difference	<i>p</i> -value
	Enriched Sample	Traditional Sample	(Traditional – Enriched sample) / Enriched sample (%)	
Accumbens	-0.02586	-0.01375	-46.83	<0.0001
Putamen	-0.02526	-0.01822	-27.87	<0.0001
Thalamus	-0.0076	-0.0045	-40.79	<0.0001
Globus	-0.02176	-0.01630	-25.09	<0.0001
Occipital_g	-0.00436	-0.00238	-45.41	0.0002
Parietal_w	-0.00375	-0.00082	-78.13	0.0003
Cwm	-0.00321	-0.00084	-73.83	0.0003
Frontal_w	-0.00228	0.00036	-115.79	0.0011
Temporal_w	-0.00351	-0.00183	-47.86	0.0075
Frontal_g	-0.00656	-0.00507	-22.71	0.0146
Caudate	-0.01356	-0.0162	19.47	0.0164
Cgm	-0.00464	-0.00359	-22.63	0.0231
Occipital_w	-0.00274	-0.00124	-54.74	0.0375

Temporal_g	-0.00433	-0.00319	-26.33	0.0400
CSF	0.03591	0.0308	-14.23	0.0892
Hippocampus	-0.00006	-0.00089	138.33	0.1195
Parietal_g	-0.00439	-0.00367	-16.40	0.2635

SEA = Sample Enrichment Algorithm; CSF = cerebral spinal fluid; Cgm = Cortical gray matter;

g = gray matter; Cwm = Cortical white matter; w = white matter;