Supplementary data

Supplementary Table S1. Baseline (1992 in the NHS and 1993 in the NHSII) characteristics of participants according to the first 4-year changes in healthful plant-based diet index (hPDI) and unhealthful plant-based diet index (uPDI)*

	Decrease ≥ 10 pt	Decrease 3 to 9 pt	Relatively stable (± 2 pt)	Increase 3 to 9 pt	Increase ≥ 10 pt
Healthful plant-based diet index (hPDI)					
Nurses' Health Study					
n	4,365	16,053	15,645	11,826	2,401
hPDI score					
Baseline	61.8 (6.4)	58.0 (6.9)	55.2 (6.9)	52.7 (6.8)	49.6 (6.6)
Change	-12.4 (2.4)	-5.5 (1.9)	-0.1 (1.4)	5.3 (1.9)	12.2 (2.0)
Age (year)[†]	59 (7)	59 (7)	58 (7)	57 (7)	57 (7)
Body-mass index	26.7 (5.1)	26.0 (4.9)	25.8 (4.8)	25.8 (4.9)	26.0 (5.1)
Physical activity (Met-hours/week)	19.2 (23.2)	19.9 (22.7)	19.8 (22.4)	19.8 (23.8)	19.8 (22.2)
Alcohol intake (g/day)	4.7 (9.4)	5.1 (9.3)	5.2 (9.3)	5.4 (9.9)	5.4 (9.8)
Margarine Intake (servings/day)	0.9 (1.0)	0.9 (1.0)	0.9 (1.0)	0.9 (1.0)	0.9 (1.0)
Energy Intake (kcal/day)	1647 (474)	1723 (503)	1758 (507)	1805 (512)	1865 (499)
White race (%)	98	98	98	98	98
Current Smoker (%)	12	12	13	12	13
Premenopausal (%)	21	21	21	22	23
Postmenopausal hormone use (%)	34	32	32	31	29
Comorbidities (%)					
Cardiovascular disease	9	8	8	8	8
Cancer	9	9	9	9	8
Diabetes	4	4	4	5	6
Hypertension	36	32	32	32	32
Hypercholesterolemia	51	47	45	45	46
Respiratory diseases	12	11	11	11	12
NSAIDs use (%)	48	50	49	49	48
Multivitamin use (%)	44	43	43	42	44
Social status (%)					
Currently married	82	83	84	83	80
Currently working	90	91	90	90	89
Education (more than Bachelor)	30	31	31	31	31
Husband Education (more than college)	46	46	48	47	45
Baseline SF-36 scores					
Physical component score	49.6 (9.1)	50.2 (8.8)	50.3 (8.7)	50.3 (8.8)	50.3 (8.8)
Mental component score	52.0 (8.6)	52.1 (8.5)	52.4 (8.3)	52.1 (8.4)	51.9 (8.6)

Supplementary data

	Decrease ≥ 10 pt	Decrease 3 to 9 pt	Relatively stable (± 2 pt)	Increase 3 to 9 pt	Increase ≥ 10 pt
Physical functioning	85.1 (17.8)	86.3 (17.1)	86.4 (17.1)	86.5 (17.0)	86.4 (17.1)
Physical role limitations	74.9 (35.8)	76.3 (35.0)	76.7 (34.8)	76.5 (35.1)	76.4 (35.1)
Bodily pain	73.0 (20.5)	74.3 (20.2)	74.8 (19.8)	74.6 (20.1)	74.4 (20.3)
General health	79.0 (18.4)	80.2 (17.3)	80.4 (17.3)	80.3 (17.6)	80.3 (17.6)
Vitality	63.6 (18.5)	64.3 (18.0)	64.9 (17.9)	64.5 (18.1)	64.3 (18.4)
Social functioning	88.7 (18.7)	89.6 (18.0)	90.1 (17.7)	89.8 (17.9)	89.1 (18.5)
Mental role limitations	83.8 (29.3)	84.2 (28.9)	85.0 (28.1)	84.6 (28.6)	84.1 (28.6)
Mental health	76.8 (14.3)	77.1 (14.1)	77.5 (13.9)	77.2 (14.1)	77.0 (14.3)
Nurses' Health Study II					
n	4,194	15,307	15,906	13,141	3,236
hPDI score					
Baseline	61.6 (6.6)	57.4 (6.9)	54.7 (7.0)	52.3 (6.8)	49.3 (6.5)
Change	-12.5 (2.3)	-5.5 (1.9)	-0.1 (1.4)	5.3 (1.9)	12.5 (2.3)
Age (year)[†]	39 (4)	39 (5)	39 (5)	39 (5)	38 (5)
Body-mass index	26.0 (6.0)	25.3 (5.7)	24.9 (5.5)	24.7 (5.4)	25.1 (5.7)
Physical activity (Met-hours/week)	21.4 (26.7)	20.5 (26.4)	20.2 (26.1)	20.1 (25.7)	20.0 (26.7)
Alcohol intake (g/day)	2.9 (6.0)	3.1 (6.0)	3.2 (6.3)	3.3 (6.4)	3.1 (5.9)
Margarine Intake (servings/day)	0.6 (0.8)	0.7 (0.8)	0.7 (0.8)	0.7 (0.8)	0.7 (0.8)
Energy Intake (kcal/day)	1625 (490)	1737 (528)	1796 (538)	1864 (545)	1935 (523)
White race (%)	97	97	97	97	97
Current Smoker (%)	10	9	10	11	10
Premenopausal (%)	93	94	94	94	94
Postmenopausal hormone use (%)	5	4	4	4	4
Comorbidities (%)					
Cardiovascular disease	4	3	3	4	3
Cancer	2	2	2	2	2
Diabetes	1	1	1	1	2
Hypertension	8	8	7	7	8
Hypercholesterolemia	20	19	18	18	18
Respiratory diseases	10	10	10	10	9
NSAIDs use (%)	11	10	10	10	10
Multivitamin use (%)	43	43	43	43	43
Social status (%)					
Currently married	82	85	85	84	81
Currently working	95	96	95	96	95

Supplementary data

	Decrease ≥ 10 pt	Decrease 3 to 9 pt	Relatively stable (± 2 pt)	Increase 3 to 9 pt	Increase ≥ 10 pt
Husband Education (college)	70	71	71	71	69
Income status (%)					
less than $50,000	15	14	13	13	13
$50,000 to less than $75,000	24	24	23	23	25
$75,000 to less than $100,000	18	18	18	19	17
$100,000 or more	31	29	30	31	31
Baseline SF-36 scores					
Physical component score	52.6 (8.3)	53.1 (7.6)	53.3 (7.6)	53.3 (7.7)	53.4 (7.7)
Mental component score	47.6 (9.6)	48.0 (9.3)	48.2 (9.1)	48.1 (9.4)	48.0 (9.3)
Physical functioning	90.9 (14.9)	91.9 (13.6)	92.1 (13.5)	92.2 (13.4)	91.8 (14.0)
Physical role limitations	81.9 (31.4)	83.3 (30.2)	83.9 (29.7)	83.8 (29.9)	84.3 (29.6)
Bodily pain	76.3 (19.5)	77.2 (18.5)	77.8 (18.4)	77.8 (18.8)	78.0 (18.7)
General health	79.5 (17.9)	80.5 (17.0)	80.7 (16.8)	80.6 (17.1)	80.9 (17.3)
Vitality	54.3 (19.3)	55.4 (19.1)	56.0 (18.9)	56.2 (19.2)	56.2 (20.0)
Social functioning	85.0 (20.6)	86.6 (19.2)	87.1 (18.8)	86.6 (19.4)	86.6 (19.0)
Mental role limitations	81.1 (30.9)	81.8 (30.1)	81.9 (30.2)	81.8 (30.5)	81.7 (30.5)
Mental health	71.2 (15.4)	71.7 (15.0)	72.1 (14.7)	72.0 (15.1)	71.9 (14.9)
Unhealthful plant-based diet index (uPDI)					
Nurses' Health Study					
n	2,871	12,792	15,411	14,951	4,265
uPDI score					
Baseline	60.2 (6.3)	57.0 (6.8)	54.6 (6.9)	52.0 (6.8)	48.1 (6.5)
Change	-12.2 (2.0)	-5.4 (1.9)	0.0 (1.4)	5.5 (1.9)	12.6 (2.5)
Age (year)[†]	58 (7)	58 (7)	58 (7)	58 (7)	58 (7)
Body-mass index	26.2 (5.1)	25.8 (4.9)	25.8 (4.9)	26.0 (4.8)	26.6 (5.1)
Physical activity (Met-hours/week)	20.1 (25.0)	20.0 (23.4)	19.8 (22.9)	19.7 (22.8)	19.4 (21.1)
Alcohol intake (g/day)	5.4 (9.6)	5.6 (9.7)	5.4 (9.8)	4.9 (9.2)	4.1 (8.2)
Margarine Intake (servings/day)	0.9 (1.0)	0.9 (1.0)	0.9 (1.0)	0.9 (1.0)	0.9 (1.0)
Energy Intake (kcal/day)	1622 (479)	1704 (495)	1750 (511)	1799 (508)	1844 (500)
White race (%)	98	98	98	98	98
Current Smoker (%)	13	13	13	12	11
Premenopausal (%)	22	22	22	22	21
Postmenopausal hormone use (%)	32	32	31	32	32
Comorbidities (%)					
Cardiovascular disease	9	8	8	8	9

Supplementary data

	Decrease ≥ 10 pt	Decrease 3 to 9 pt	Relatively stable (± 2 pt)	Increase 3 to 9 pt	Increase ≥ 10 pt
Cancer	9	9	9	10	9
Diabetes	6	5	4	4	4
Hypertension	34	32	32	33	34
Hypercholesterolemia	48	46	45	46	48
Respiratory diseases	12	12	11	11	11
NSAIDs use (%)	49	50	50	49	48
Multivitamin use (%)	44	43	42	43	44
Social status (%)					
Currently married	82	83	84	83	82
Currently working	90	90	90	90	89
Education (more than Bachelor)	31	31	31	30	30
Husband Education (more than college)	45	48	47	46	45
Baseline SF-36 scores					
Physical component score	49.9 (9.2)	50.2 (8.9)	50.3 (8.6)	50.2 (8.8)	49.8 (9.0)
Mental component score	51.9 (8.6)	52.2 (8.4)	52.2 (8.4)	52.2 (8.4)	51.9 (8.7)
Physical functioning	85.4 (18.2)	86.2 (17.3)	86.7 (16.7)	86.4 (17.2)	85.3 (17.8)
Physical role limitations	75.7 (35.6)	76.5 (35.0)	76.6 (35.0)	76.5 (34.9)	75.6 (35.4)
Bodily pain	74.1 (20.6)	74.6 (20.1)	74.7 (19.9)	74.4 (20.0)	73.4 (20.5)
General health	79.4 (18.3)	80.0 (17.6)	80.4 (17.2)	80.4 (17.4)	80.0 (17.5)
Vitality	64.2 (18.1)	64.7 (18.0)	64.7 (18.0)	64.4 (18.0)	63.3 (18.7)
Social functioning	89.1 (18.4)	89.7 (17.9)	89.9 (17.9)	90.0 (17.8)	89.0 (18.7)
Mental role limitations	83.6 (29.7)	84.6 (28.5)	84.8 (28.3)	84.7 (28.5)	83.5 (29.5)
Mental health	76.7 (14.3)	77.2 (14.0)	77.3 (14.1)	77.4 (13.9)	76.9 (14.4)
Nurses' Health Study II					
n	3,013	12,392	15,244	15,833	5,302
uPDI score					
Baseline	60.9 (6.4)	57.9 (7.1)	55.5 (7.2)	52.6 (7.1)	48.9 (6.5)
Change	-12.4 (2.3)	-5.4 (1.9)	0.0 (1.4)	5.5 (1.9)	12.9 (2.7)
Age (year)[†]	38 (5)	38 (5)	39 (5)	39 (4)	39 (4)
Body-mass index	25.0 (5.6)	24.9 (5.5)	24.9 (5.6)	25.1 (5.5)	25.9 (5.9)
Physical activity (Met-hours/week)	18.4 (21.8)	19.9 (26.7)	19.9 (24.7)	21.0 (27.0)	22.3 (28.7)
Alcohol intake (g/day)	3.3 (6.6)	3.3 (6.3)	3.2 (6.2)	3.1 (6.0)	2.9 (6.0)
Margarine Intake (servings/day)	0.7 (0.8)	0.7 (0.8)	0.7 (0.8)	0.7 (0.8)	0.7 (0.8)
Energy Intake (kcal/day)	1651 (501)	1739 (530)	1781 (542)	1833 (540)	1893 (530)
White race (%)	96	97	97	97	97

Supplementary data

	Decrease ≥ 10 pt	Decrease 3 to 9 pt	Relatively stable (± 2 pt)	Increase 3 to 9 pt	Increase ≥ 10 pt
Current Smoker (%)	10	11	10	10	8
Premenopausal (%)	93	94	94	94	94
Postmenopausal hormone use (%)	5	4	4	4	4
Comorbidities (%)					
Cardiovascular disease	4	3	3	3	4
Cancer	2	2	2	2	1
Diabetes	1	1	1	1	1
Hypertension	8	8	7	8	8
Hypercholesterolemia	20	19	18	18	19
Respiratory diseases	11	10	9	9	10
NSAIDs use (%)	11	11	10	10	9
Multivitamin use (%)	45	44	42	43	41
Social status (%)					
Currently married	81	84	85	85	85
Currently working	95	95	96	95	96
Husband Education (more than college)	71	71	71	71	70
Income status (%)					
less than $50,000	14	13	14	13	14
$50,000 to less than $75,000	23	23	23	23	24
$75,000 to less than $100,000	18	18	18	18	18
$100,000 or more	30	30	30	30	30
Baseline SF-36 scores					
Physical component score	52.8 (8.1)	53.1 (7.8)	53.2 (7.5)	53.2 (7.7)	53.2 (7.9)
Mental component score	47.7 (9.6)	48.1 (9.2)	48.2 (9.2)	48.0 (9.3)	47.7 (9.6)
Physical functioning	91.0 (15.2)	91.9 (13.7)	92.2 (13.2)	92.0 (13.6)	91.6 (13.9)
Physical role limitations	82.1 (31.1)	83.6 (30.1)	83.7 (29.9)	83.7 (29.9)	83.5 (30.0)
Bodily pain	76.9 (19.0)	77.4 (18.8)	77.7 (18.5)	77.6 (18.5)	77.4 (18.7)
General health	79.8 (17.7)	80.3 (17.3)	80.7 (16.9)	80.6 (16.9)	80.8 (17.2)
Vitality	55.4 (19.3)	55.9 (19.2)	55.9 (19.1)	55.6 (19.1)	55.2 (19.2)
Social functioning	85.6 (20.1)	86.7 (19.2)	86.9 (19.0)	86.7 (19.2)	86.1 (19.5)
Mental role limitations	79.7 (31.9)	81.9 (30.2)	82.2 (30.2)	81.9 (30.1)	81.2 (30.8)
Mental health	71.6 (15.3)	72.0 (14.8)	72.1 (14.9)	71.8 (15.0)	71.4 (15.3)

NHS, Nurses' Health Study; NHS II, Nurses' Health Study II; hPDI, healthful plant-based diet index; SF-36, 36-Item Short Form Health Survey; uPDI, unhealthful plant-based index.

[*] Values were means (SDs) or percentages and were standardized to the age distribution of the study population. [†] Value was not age-adjusted.

Supplementary data

Supplementary Table S2. 4-year changes in physical component scores (1992-2000 in NHS and 1993-2001 in NHSII) according to 4-year changes in plant-based diet indices (1990-1998 in NHS and 1991-1999 in NHSII) adjusted for age, baseline corresponding plant-based diet indices, and baseline corresponding HRQoL scores[*]

	Decrease ≥ 10 pt	Decrease 3 to 9 pt	Relatively stable (± 2 pt)	Increase 3 to 9 pt	Increase ≥ 10 pt	Changes/10-point increase in indices (95% CIs)	*p*
Overall Plant-Based Diet Index (PDI)							
Nurses' Health study							
Basic model	-0.45 (-0.65, -0.25)	-0.22 (-0.34, -0.10)	0.00	0.08 (-0.04, 0.20)	0.23 (0.02, 0.44)	0.29 (0.20, 0.37)	<0.001
Nurses' Health study II							
Basic model	-0.22 (-0.39, -0.04)	-0.09 (-0.20, 0.02)	0.00	0.01 (-0.10, 0.12)	-0.06 (-0.24, 0.12)	0.09 (0.02, 0.16)	0.02
Pooled Results							
Basic model	-0.32 (-0.45, -0.19)	-0.15 (-0.23, -0.07)	0.00	0.04 (-0.04, 0.12)	0.06 (-0.08, 0.20)	0.17 (0.12, 0.23)	<0.001
Healthful Plant-Based Diet Index (hPDI)							
Nurses' Health study							
Basic model	-0.72 (-0.91, -0.53)	-0.24 (-0.36, -0.13)	0.00	0.12 (0.00, 0.25)	0.23 (0.02, 0.44)	0.39 (0.30, 0.47)	<0.001
Nurses' Health study II							
Basic model	-0.63 (-0.81, -0.46)	-0.21 (-0.31, -0.10)	0.00	0.09 (-0.02, 0.20)	0.01 (-0.16, 0.19)	0.29 (0.22, 0.37)	<0.001
Pooled Results							
Basic model	-0.67 (-0.80, -0.55)	-0.22 (-0.30, -0.15)	0.00	0.11 (0.03, 0.19)	0.10 (-0.03, 0.24)	0.33 (0.28, 0.39)	<0.001
Unhealthful Plant-Based Diet Index (uPDI)							
Nurses' Health study							
Basic model	0.19 (0.00, 0.38)	0.03 (-0.09, 0.15)	0.00	-0.33 (-0.45, -0.21)	-0.73 (-0.92, -0.55)	-0.36 (-0.44, -0.29)	<0.001
Nurses' Health study II							

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Basic model	-0.24 (-0.41, -0.08)	-0.08 (-0.19, 0.03)	0.00	-0.03 (-0.14, 0.08)	-0.22 (-0.39, -0.06)	0.01 (-0.06, 0.08)	0.78
Pooled Results							
Basic model	-0.06 (-0.19, 0.06)	-0.03 (-0.11, 0.05)	0.00	-0.17 (-0.25, -0.09)	-0.45 (-0.57, -0.33)	-0.15 (-0.20, -0.10)	<0.001

NHS, Nurses' Health Study; NHS II, Nurses' Health Study II.

[*] Values were beta coefficients (95% CIs) in physical component scores. Pooled results were calculated with a fixed effects model.

[†] The *P* value for Q-statistic for heterogeneity <0.05, indicating statistically significant heterogeneity between the NHS and the NHSII.
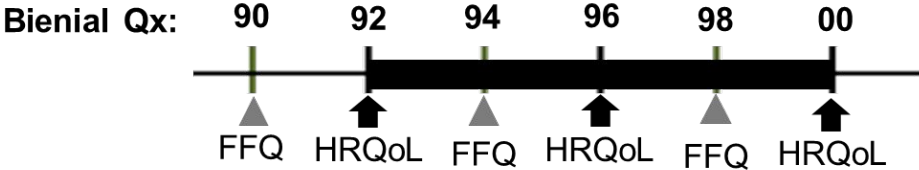
Supplementary data

Supplementary Table S3. 4-year changes in mental component scores (1992-2000 in NHS and 1993-2001 in NHSII) according to 4-year changes in plant-based diet indices (1990-1998 in NHS and 1991-1999 in NHSII) adjusted for age, baseline corresponding plant-based diet indices, and baseline corresponding HRQoL scores[*]

	Decrease ≥ 10 pt	Decrease 3 to 9 pt	Relatively stable (± 2 pt)	Increase 3 to 9 pt	Increase ≥ 10 pt	Changes/10-point increase in indices (95% CIs)	p
Overall Plant-Based Diet Index (PDI)							
Nurses' Health study							
Basic model	-0.10 (-0.28, 0.07)	0.02 (-0.09, 0.12)	0.00	0.16 (0.06, 0.26)	-0.01 (-0.20, 0.17)	0.06 (-0.01, 0.14)	0.10
Nurses' Health study II							
Basic model	-0.36 (-0.57, -0.16)	-0.10 (-0.22, 0.03)	0.00	0.09 (-0.04, 0.21)	0.16 (-0.04, 0.37)	0.21 (0.12, 0.29)	<0.001
Pooled Results							
Basic model	-0.21 (-0.35, -0.08)	-0.03 (-0.11, 0.05)	0.00	0.13 (0.05, 0.21)	0.06 (-0.07, 0.20)	0.12 (0.07, 0.18)	<0.001
Healthful Plant-Based Diet Index (hPDI)							
Nurses' Health study							
Basic model	-0.15 (-0.32, 0.01)	0.02 (-0.09, 0.12)	0.00	0.15 (0.05, 0.26)	0.15 (-0.04, 0.33)	0.10 (0.03, 0.17)	0.007
Nurses' Health study II							
Basic model	-0.49 (-0.69, -0.29)	-0.08 (-0.20, 0.05)	0.00	0.17 (0.04, 0.29)	0.23 (0.03, 0.43)	0.27 (0.18, 0.35)	<0.001
Pooled Results							
Basic model	-0.29 (-0.42, -0.16)	-0.02 (-0.10, 0.06)	0.00	0.16 (0.08, 0.24)	0.19 (0.05, 0.32)	0.17 (0.11, 0.22)	<0.001
Unhealthful Plant-Based Diet Index (uPDI)							
Nurses' Health study							
Basic model	0.17 (0.00, 0.34)	0.12 (0.02, 0.23)	0.00	0.03 (-0.07, 0.14)	-0.21 (-0.37, -0.05)	-0.13 (-0.20, -0.07)	<0.001

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Nurses' Health study II

Basic model	0.28 (0.09, 0.47)	0.19 (0.06, 0.32)	0.00	0.06 (-0.07, 0.18)	-0.15 (-0.34, 0.04)	-0.16 (-0.23, -0.08)	<0.001

Pooled Results

Basic model	0.22 (0.09, 0.34)	0.15 (0.07, 0.23)	0.00	0.04 (-0.04, 0.12)	-0.19 (-0.31, -0.07)	-0.14 (-0.19, -0.09)	<0.001

NHS, Nurses' Health Study; NHS II, Nurses' Health Study II.

[*] Values were beta coefficients (95% CIs) in mental component scores. Pooled results were calculated with a fixed effects model.

[†] The *P* value for Q-statistic for heterogeneity <0.05, indicating statistically significant heterogeneity between the NHS and the NHSII.

Supplementary data

Supplementary Table S4. Changes in physical and mental component scores per 10-point increase in hPDI, 5-lbs increase in weight, and 5-Met-hours/week increase in physical activity

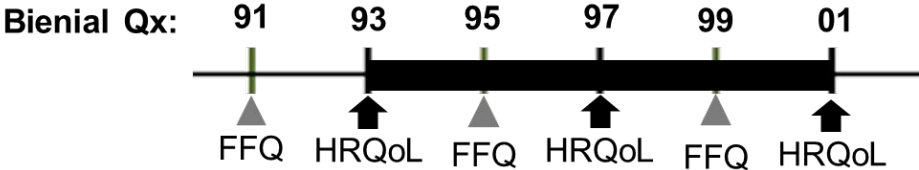|	PCS	*P*	MCS	*P*
NHS				
hPDI increase (10 pt)				
Multivariable-adjusted model	0.22 (0.14, 0.30)	<0.001	0.04 (-0.04, 0.11)	0.34
Weight increase (5 lbs)				
Multivariable-adjusted model	-0.29 (-0.31, -0.26)	<0.001	0.09 (0.07, 0.11)	<0.001
Physical activity increase (5 Met-h/week)				
Multivariable-adjusted model	0.19 (0.18, 0.20)	<0.001	0.10 (0.08, 0.11)	<0.001
NHSII				
hPDI increase (10 pt)				
Multivariable-adjusted model	0.07 (-0.01, 0.14)	0.08	0.16 (0.07, 0.25)	<0.001
Weight increase (5 lbs)				
Multivariable-adjusted model	-0.35 (-0.37, -0.34)	<0.001	-0.03 (-0.05, -0.01)	0.001
Physical activity increase (5 Met-h/week)				
Multivariable-adjusted model	0.06 (0.05, 0.07)	<0.001	0.08 (0.07, 0.09)	<0.001

hPDI, healthful plant-based diet index; PCS, physical component scores; MCS, mental component scores; NHS, Nurses' Health Study; NHS II, Nurses' Health Study II. Values were multivariable-adjusted beta coefficients (95% CIs) in PCS and MCS. Results were calculated in each cohort and pooled with a fixed effects model.

Supplementary data
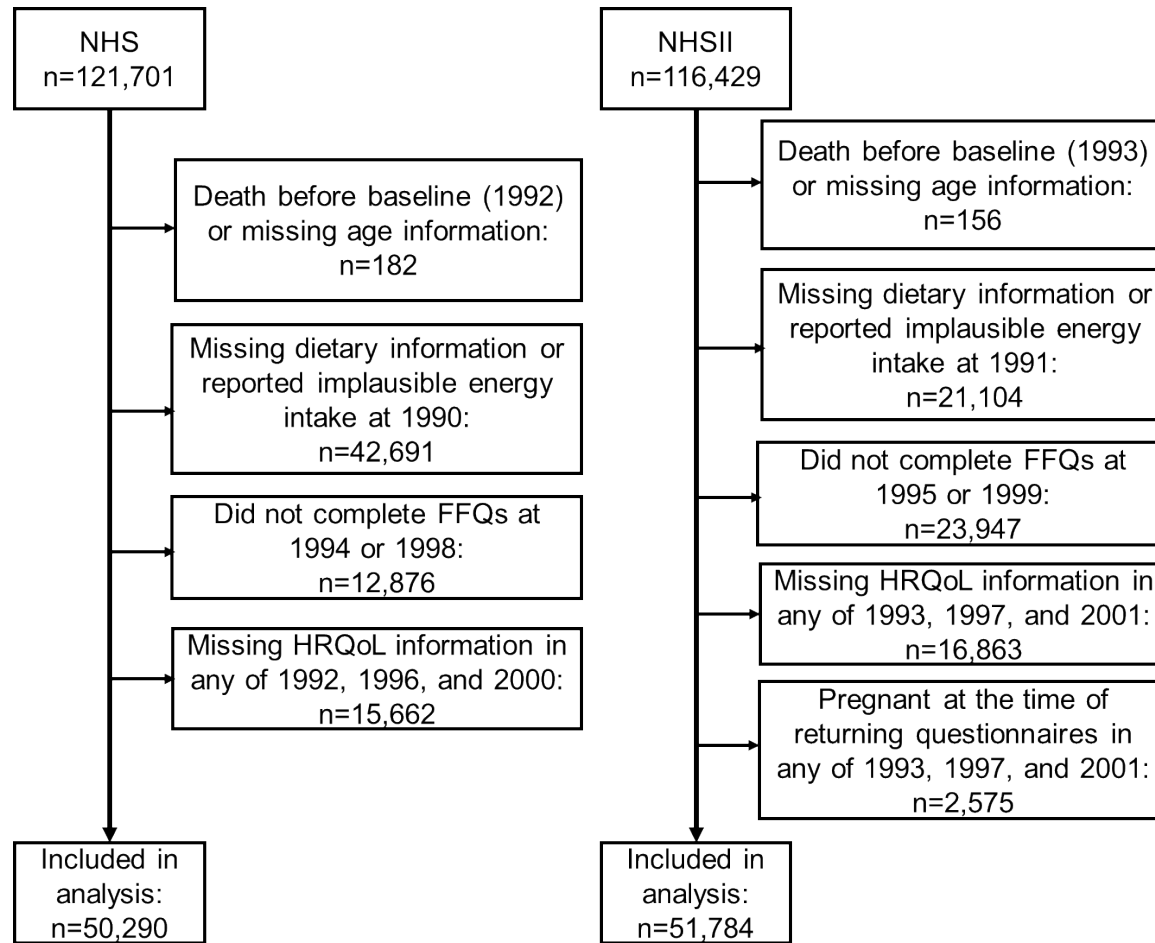

Nurses' Health Study (NHS), N= 50,290

Bienial Qx: 90 92 94 96 98 00

FFQ HRQoL FFQ HRQoL FFQ HRQoL

Nurses' Health Study II (NHSII), N= 51,784

Bienial Qx: 91 93 95 97 99 01

FFQ HRQoL FFQ HRQoL FFQ HRQoL

Supplementary Figure S1: Assessments of dietary information and HRQoL during the follow-up periods. The black bold lines show the follow-up periods. Qx, questionnaire; FFQ, food frequency questionnaire; HRQoL, health-related quality of life.
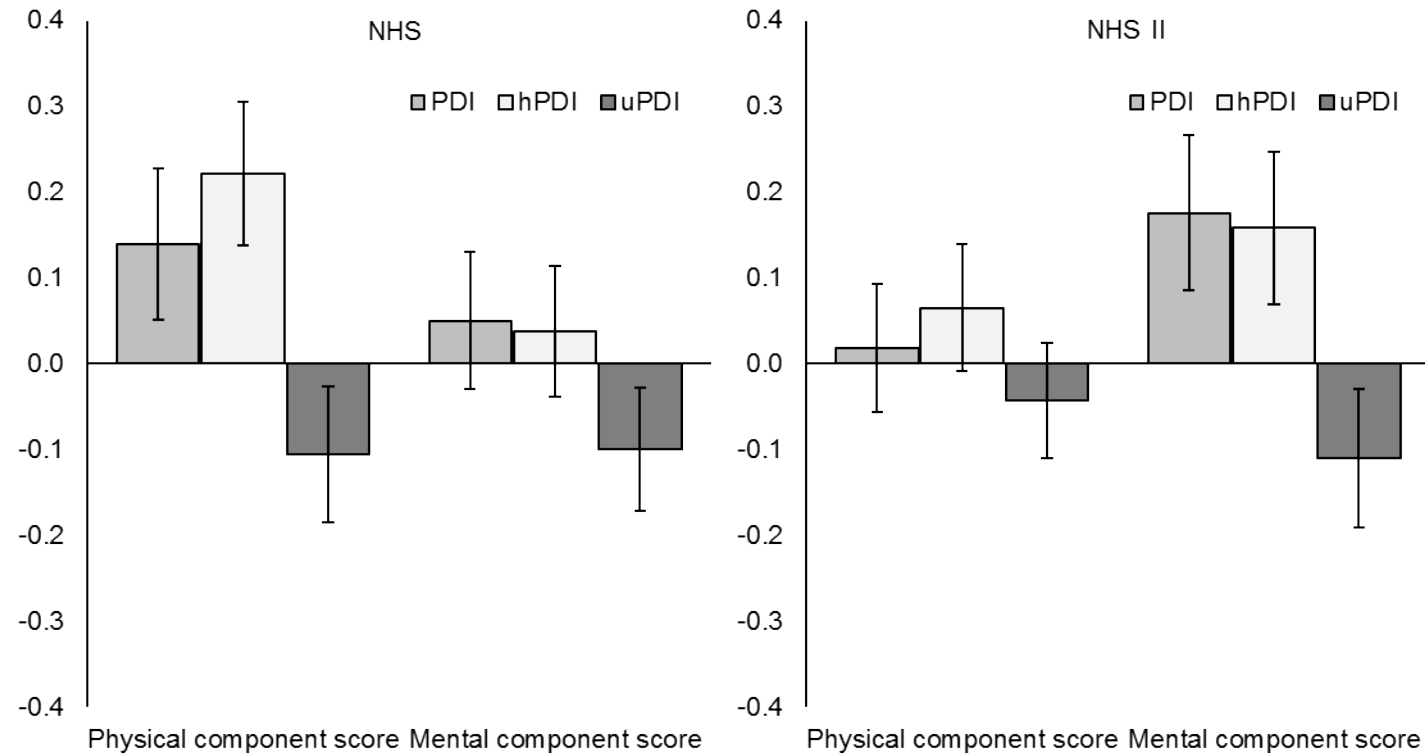
Supplementary data

Supplementary Figure S2: Flow chart of participants. NHS, Nurses' Health Study; NHS II, Nurses' Health Study II; FFQ, food frequency questionnaire; HRQoL, health-related quality of life.

Supplementary data
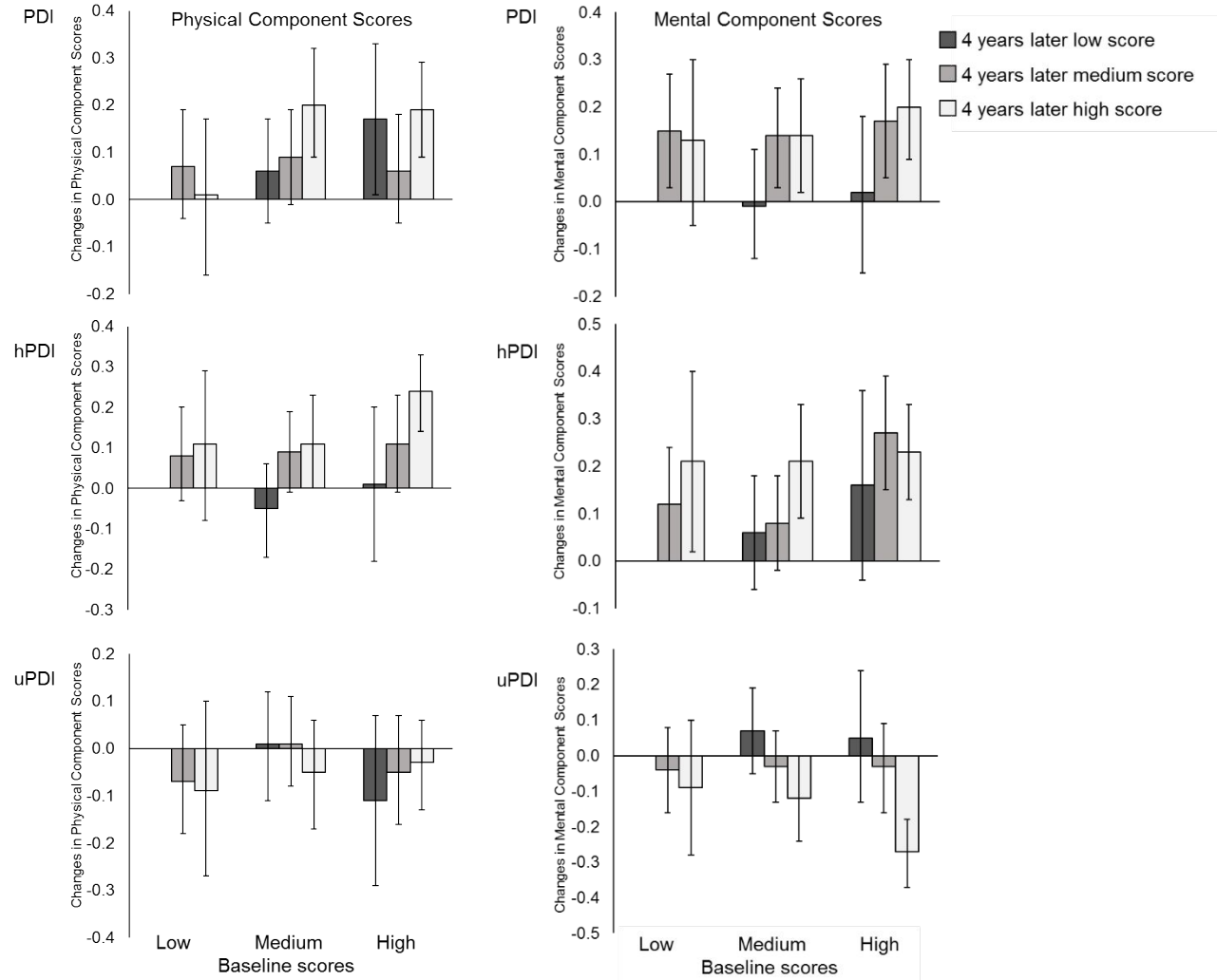
Supplementary Figure S3. Changes in physical and mental component scores according to baseline and 4-years later plant-based diet index scores. hPDI, healthful plant-based diet index; PDI, overall plant-based diet index; uPDI, unhealthful plant-based index.

Supplementary data

Supplementary Figure S4. Changes in physical and mental component scores per 10-point increase in plant-based diet index scores in the NHS and the NHSII. The bar graph indicate the multivariable-adjusted differences of PCS and MCS scores. Error bars indicate 95% confidence intervals. hPDI, healthful plant-based diet index; MCS, mental component score; NHS, Nurses' Health Study; NHSII, Nurses' Health Study II; PCS, physical component score; PDI, overall plant-based diet index; uPDI, unhealthful plant-based index.