Supplementary Materials

Table S1. Definition of five groups in the analysis of Dietary Diversity Score.

Food Group	Definition
Dairy	all milk and milk products, with a minimum amount of 15g for solids and 30g for liquids and mixed dishes.
Meat	all sources of animal and plant protein, with a minimum amount of 30g for solids and 60g for liquids and mixed dishes.
Grain	all grain products except cakes, pies, cookies, and pastries, with a minimum amount of 15g for solids and 30g for liquids and mixed dishes.
Fruit	all fresh, canned, frozen, and dried fruits or fruit juices, except fruit drinks, with a minimum amount of 30g for solids and 60g for liquids and mixed dishes.
Vegetable	all raw, cooked frozen, canned vegetables, with a minimum amount of 30g for solids and 60g for liquids and mixed dishes.

Table S2. Food attributes based on USDA Food Patterns Equivalents Database

Attributes	Code	Definition
Animal-source protein	1:Yes; 0:No	Protein Foods, Meat Protein Foods, Poultry Protein Foods, Seafood High in EPA/DHA Protein Foods, Seafood Low in EPA/DHA Protein Foods, Eggs Dairy, Milk Dairy, Yogurt Dairy, Cheese
Plant-source protein	1:Yes; 0:No	Soy Products Nuts and Seeds
Whole grains	1:Yes; 0:No	Whole Grains
Refined grains	1:Yes; 0:No	Refined Grains
Fiber	1:Yes; 0:No	Total fruit, vegetables, and grains
Sodium	1:Yes; 0:No	Having sodium or not.
Alcohol	1:Yes; 0:No	Having alcohol or not.
Eicosapentaenoic acid (EPA) Docosahexaenoic acid (DHA)	1:Yes; 0:No	Having EPA, DHA or not.
Oils	1:Yes; 0:No	Oils
Solid fats	1:Yes; 0:No	Solid fats

Table S3. Weighted ORs and 95% CIs for depressive symptoms according to quintiles of DDS, HFDI, and HEI over the age of 60y.

	Cutoff(pmol/g)	Crude	Model 1[a]	Model 2[b]
		OR (95% CI)	OR (95% CI)	OR (95% CI)
DDS				
DDS≤1.5	-	Ref.	Ref.	Ref.
DDS=2	-	0.64(0.14, 2.91)	0.63(0.14, 2.95)	1.42(0.13, 15.67)
DDS=2.5	-	0.28(0.08, 0.96)*	0.28(0.08, 0.95)*	0.34(0.03, 3.91)
DDS=3	-	0.32(0.09, 1.18)	0.32(0.09, 1.18)	0.48(0.04, 6.09)
DDS=3.5	-	0.50(0.14, 1.77)	0.49(0.14, 1.76)	0.98(0.08, 12.12)
DDS=4	-	0.36(0.10, 1.23)	0.35(0.10, 1.23)	0.71(0.08, 6.49)
DDS=4.5	-	0.19(0.06, 0.63)*	0.19(0.05, 0.64)*	0.32(0.03, 3.89)
DDS=5	-	0.18(0.06, 0.56)*	0.18(0.06, 0.56)*	0.24(0.02, 2.99)
HFDI				
Q1	<0.135	Ref.	Ref.	Ref.
Q2	0.135 to <0.244	0.73(0.35, 1.51)	0.75(0.36, 1.54)	0.58(0.18, 1.84)
Q3	0.244 to <0.331	0.58(0.26, 1.29)	0.59(0.26, 1.34)	0.24(0.06, 0.98)*
Q4	0.331 to <0.430	0.31(0.14, 0.73)*	0.32(0.14, 0.75)*	0.19(0.05, 0.69)*
Q5	≥0.430	0.35(0.16, 0.73)*	0.36(0.17, 0.77)*	0.23(0.07, 0.73)*
HEI				
Q1	< 43.821	Ref.	Ref.	Ref.
Q2	43.821 to <52.060	1.22(0.64, 2.33)	1.21(0.64, 2.31)	1.99(0.78, 5.06)
Q3	52.060 to <59.415	0.48(0.27, 0.84)*	0.46(0.26, 0.82)*	0.63(0.25, 1.61)
Q4	59.415 to < 68.094	0.62(0.35, 1.10)	0.59(0.34, 1.05)	0.72(0.24, 2.16)
Q5	≥68.094	0.55(0.29, 1.06)	0.53(0.27, 1.04)	0.79(0.29, 2.15)

DDS, Dietary diversity score. HFDI, Healthy Food Diversity index. HEI, Healthy Eating Index. and JD, a: model 1 was adjusted by age, and sex; b: Model 2 further adjusted race, educational status, household income, marital status, BMI, energy intake, smoking status, alcohol use, antidepressant use, hypertension, and diabetes; *: *P*<0.05 **: *P*<0.01; OR, odds ratio; CI, confidence interval;

Table S4. Weighted ORs and 95% CIs for depressive symptoms according to quintiles of DDS, HFDI, and HEI in females.

	Cutoff(pmol/g)	Crude	Model 1[a]	Model 2[b]
		OR (95% CI)	OR (95% CI)	OR (95% CI)
DDS				
DDS≤1.5	-	Ref.	Ref.	Ref.
DDS=2	-	0.86(0.50, 1.47)	0.86(0.51, 1.47)	0.79(0.29, 2.18)
DDS=2.5	-	0.68(0.40, 1.16)	0.68(0.40, 1.17)	0.58(0.23, 1.45)
DDS=3	-	0.67(0.40, 1.14)	0.68(0.40, 1.15)	0.61(0.25, 1.49)
DDS=3.5	-	0.55(0.33, 0.93)*	0.56(0.32, 0.95)*	0.52(0.20, 1.34)
DDS=4	-	0.63(0.36, 1.10)	0.63(0.35, 1.13)	0.42(0.16, 1.08)
DDS=4.5	-	0.27(0.16, 0.47)**	0.28(0.16, 0.49)**	0.25(0.09, 0.71)*
DDS=5	-	0.25(0.11, 0.58)*	0.26(0.11, 0.61)*	0.34(0.08, 1.51)
HFDI				
Q1	<0.126	Ref.	Ref.	Ref.
Q2	0.126 to <0.234	0.64(0.43, 0.95)*	0.65(0.43, 0.97)*	0.56(0.32, 0.98)*
Q3	0.234 to <0.328	0.82(0.55, 1.22)	0.83(0.56, 1.24)	0.39(0.22, 0.69)*
Q4	0.328to <0.439	0.62(0.40, 0.97)*	0.63(0.40, 0.99)*	0.47(0.23, 0.95)*
Q5	≥0.439	0.49(0.31, 0.78)*	0.49(0.31, 0.78)*	0.55(0.28, 1.09)
HEI				
Q1	<41.614	Ref.	Ref.	Ref.
Q2	41.614 to <49.567	0.86(0.58, 1.27)	0.86(0.58, 1.28)	0.59(0.36, 0.98)*
Q3	49.567 to <57.320	0.54(0.37, 0.80)*	0.55(0.37, 0.81)*	0.52(0.27, 0.99)*
Q4	57.320 to < 66.358	0.46(0.30, 0.68)**	0.46(0.31, 0.69)**	0.45(0.26, 0.81)*
Q5	≥66.358	0.48(0.35, 0.66)**	0.49(0.36, 0.67)**	0.34(0.18, 0.65)*

DDS, Dietary diversity score. HFDI, Healthy Food Diversity index. HEI, Healthy Eating Index. and JD, a: model 1 was adjusted by age, and sex; b: Model 2 further adjusted race, educational status, household income, marital status, BMI, energy intake, smoking status, alcohol use, antidepressant use, hypertension, and diabetes, hysterectomy, ovaries removed, and usage of female hormones; *: $P<0.05$ **: $P<0.01$; OR, odds ratio; CI, confidence interval;

Table S5. Weighted ORs and 95% CIs for depressive symptoms according to quintiles of DDS, HFDI, and HEI, in males.

	Cutoff(pmol/g)	Crude	Model 1[a]	Model 2[b]
		OR (95% CI)	OR (95% CI)	OR (95% CI)
DDS				
DDS≤1.5	-	Ref.	Ref.	Ref.
DDS=2	-	0.76(0.38, 1.52)	0.77(0.39, 1.55)	0.59(0.19, 1.83)
DDS=2.5	-	0.34(0.15, 0.77)*	0.34(0.15, 0.76)*	0.47(0.14, 1.60)
DDS=3	-	0.48(0.23, 1.00)	0.47(0.23, 0.97)*	0.54(0.15, 1.90)
DDS=3.5	-	0.45(0.20, 0.99)*	0.42(0.19, 0.93)*	0.37(0.10, 1.39)
DDS=4	-	0.29(0.12, 0.70)*	0.27(0.11, 0.66)*	0.47(0.14, 1.62)
DDS=4.5	-	0.18(0.08, 0.40)**	0.16(0.07, 0.37)**	0.20(0.05, 0.81)*
DDS=5	-	0.16(0.05, 0.49)*	0.14(0.05, 0.43)*	0.09(0.02, 0.35)*
HFDI				
Q1	<0.130	Ref.	Ref.	Ref.
Q2	0.130 to <0.238	0.57(0.28, 1.19)	0.57(0.28, 1.18)	0.40(0.19, 0.86)*
Q3	0.238 to <0.333	0.65(0.36, 1.19)	0.65(0.35,1.19)	0.43(0.19, 0.99)*
Q4	0.333to <0.440	0.63(0.36, 1.12)	0.63(0.35, 1.19)	0.75(0.35, 1.59)
Q5	≥0.440	0.49(0.29, 0.82)*	0.48(0.29, 0.81)*	0.49(0.24, 1.04)
HEI				
Q1	<39.688	Ref.	Ref.	Ref.
Q2	39.688 to <47.450	1.04(0.68, 1.57)	1.01(0.68, 1.51)	0.84(0.45, 4.58)
Q3	47.450 to <54.700	0.77(0.57, 1.03)	0.75(0.56, 0.99)*	0.79(0.45, 1.40)
Q4	54.700 to < 63.580	0.40(0.24, 0.65)*	0.38(0.24, 0.62)*	0.47(0.22, 1.01)
Q5	≥ 63.580	0.42(0.22, 0.80)*	0.40(0.21, 0.75)*	0.37(0.12, 1.08)

DDS, Dietary diversity score. HFDI, Healthy Food Diversity index. HEI, Healthy Eating Index. and JD, a: model 1 was adjusted by age, and sex; b: Model 2 further adjusted race, educational status, household income, marital status, BMI, energy intake, smoking status, alcohol use, antidepressant use, hypertension, and diabetes; *: $P<0.05$ **: $P<0.01$; OR, odds ratio; CI, confidence interval;

Table S6. Weighted ORs and 95% CIs for depressive symptoms according to quintiles of DDS, HFDI, and HEI in the age of 18y to 39y.

	Cutoff(pmol/g)	Crude OR (95% CI)	Model 1[a] OR (95% CI)	Model 2[b] OR (95% CI)
DDS				
DDS≤1.5	-	Ref.	Ref.	Ref.
DDS=2	-	1.05(0.55, 2.01)	1.09(0.57, 2.08)	1.00(0.33, 3.06)
DDS=2.5	-	0.90(0.47, 1.73)	0.91(0.48, 1.71)	1.09(0.40, 3.01)
DDS=3	-	0.84(0.40, 1.74)	0.81(0.40, 1.64)	1.12(0.38, 3.32)
DDS=3.5	-	0.87(0.43, 1.76)	0.83(0.42, 1.65)	0.91(0.32, 2.57)
DDS=4	-	0.82(0.41, 1.65)	0.79(0.40, 1.54)	0.97(0.33, 2.89)
DDS=4.5	-	0.33(0.16, 0.65)*	0.31(0.16, 0.61)*	0.66(0.21, 2.04)
DDS=5	-	0.22(0.05, 1.01)	0.21(0.05, 0.96)*	0.09(0.12, 0.63)*
HFDI				
Q1	<0.126	Ref.	Ref.	Ref.
Q2	0.126 to <0.236	0.54(0.31, 0.96)*	0.56(0.32, 1.00)*	0.32(0.14, 0.69)*
Q3	0.236 to <0.338	1.25(0.66, 2.37)	1.32(0.71, 2.45)	0.70(0.33, 1.48)
Q4	0.338to <0.460	1.04(0.59, 1.84)	1.09(0.61, 1.94)	0.89(0.41, 1.94)
Q5	≥0.460	0.60(0.33, 1.10)	0.62(0.34, 1.15)	0.65(0.26, 1.67)
HEI				
Q1	<37.652	Ref.	Ref.	Ref.
Q2	37.652 to <44.966	0.97(0.65, 1.43)	0.93(0.63, 1.35)	0.85(0.48, 1.51)
Q3	44.966 to <52.008	0.70(0.45, 1.09)	0.68(0.44, 1.06)	0.57(0.30, 1.06)
Q4	52.008 to < 60.794	0.54(0.34, 0.86)*	0.51(0.31, 0.81)*	0.55(0.27, 1.14)
Q5	≥60.794	0.65(0.39, 1.10)	0.58(0.35, 0.98)	0.59(0.29, 1.22)

DDS, Dietary diversity score. HFDI, Healthy Food Diversity index. HEI, Healthy Eating Index. and JD, a: model 1 were adjusted by age, and sex; b: Model 2 further adjusted race, educational status, household income, marital status, BMI, energy intake, smoking status, alcohol use, antidepressant use, hypertension, and diabetes; *: $P<0.05$ **: $P<0.01$; OR, odds ratio; CI, confidence interval;

Table S7. Weighted ORs and 95% CIs for depressive symptoms according to quintiles of DDS, HFDI, HEI, and JD in sensitive analysis.

	Cutoff(pmol/g)	Crude OR (95% CI)	Model 1[a] OR (95% CI)	Model 2[b] OR (95% CI)
DDS				
DDS≤1.5	-	Ref.	Ref.	Ref.
DDS=2	-	0.80(0.52, 1.22)	0.83(0.54, 1.27)	0.54(0.25, 1.18)
DDS=2.5	-	0.52(0.34, 0.78)*	0.51(0.34, 0.77)*	0.67(0.31, 1.42)
DDS=3	-	0.59(0.37, 0.93)*	0.56(0.36, 0.90)*	0.55(0.22, 1.36)
DDS=3.5	-	0.51(0.33, 0.79)*	0.48(0.31, 0.74)**	0.43(0.21, 0.88)*
DDS=4	-	0.47(0.29, 0.76)*	0.44(0.27, 0.71)**	0.47(0.19, 1.15)
DDS=4.5	-	0.22(0.15, 0.35)**	0.21(0.14, 0.33)**	0.17(0.07, 0.42)**
DDS=5	-	0.21(0.10, 0.45)**	0.19(0.09, 0.42)**	0.180(0.06, 0.55)*

Berry-index

Q1	<0.747	Ref.	Ref.	Ref.
Q2	0.747 to <0. 821	0.74(0.55, 1.00)	0.74(0.55, 0.99)*	0.86(0.50, 1.46)
Q3	0.821 to <0.860	0.68(0.49, 0.94)*	0.68(0.49, 0.93)*	0.67(0.40, 1.14)
Q4	0.860 to <0.891	0.77(0.53, 1.11)	0.77(0.53, 1.10)	1.09(0.59, 1.99)
Q5	≥0.891	0.60(0.44, 0.81)*	0.59(0.44, 0.80)*	0.72(0.36, 1.41)

HFDI

|				
Q1	<0.128	Ref.	Ref.	Ref.
Q2	0.128 to <0.236	0.59(0.42, 0.81)*	0.61(0.44, 0.86)*	0.49(0.26, 0.94)*
Q3	0.236 to <0.330	0.74(0.52, 1.05)	0.78(0.56, 1.08)	0.38(0.21, 0.69)*
Q4	0.330 to <0.439	0.58(0.41, 0.82)*	0.62(0.44, 0.87)*	0.50(0.23, 1.06)
Q5	≥0.439	0.46(0.31, 0.67)**	0.48(0.33, 0.70)**	0.37(0.17, 0.83)*

HEI

Q1	<40.640	Ref.	Ref.	Ref.
Q2	40.640 to <48.473	1.12(0.85, 1.47)	1.09(0.82, 1.43)	0.99(0.58,1.73)
Q3	48.473 to <56.070	0.66(0.49, 0.90)*	0.63(0.47, 0.86)*	0.70(0.37, 1.32)
Q4	56.070 to < 65.171	0.49(0.36, 0.69)**	0.46(0.33, 0.64)**	0.58(0.32, 1.06)
Q5	≥65.171	0.51(0.36, 0.73)**	0.46(0.32, 0.65)**	0.39(0.17, 0.91)*

JD

Q1	<0.360	Ref.	Ref.	Ref.
Q2	0.360 to <0.389	0.80(0.59, 1.07)	0.83(0.61, 1.12)	1.07 (0.63, 1.82)
Q3	0.389 to <0.410	0.88(0.64, 1.21)	0.91(0.66, 1.25)	0.84(0.45, 1.57)
Q4	0.410 to <0.433	0.70(0.51, 0.97)*	0.74(0.53, 1.02)	0.73(0.35, 1.54)
Q5	≥0.433	0.73(0.53, 1.01)	0.78(0.56, 1.09)	0.96(0.51, 1.83)

DDS, Dietary diversity score. HFDI, Healthy Food Diversity index. HEI, Healthy Eating Index. and JD,
a: model 1 was adjusted by age, and sex; b: Model 2 further adjusted race, educational status, household income, marital status, BMI, energy intake, smoking status, alcohol use, antidepressant use, hypertension, and diabetes; c: Cochran-Armitage test was conducted in DDS analysis. *: $P<0.05$ **: $P<0.01$; OR, odds ratio; CI, confidence interval;
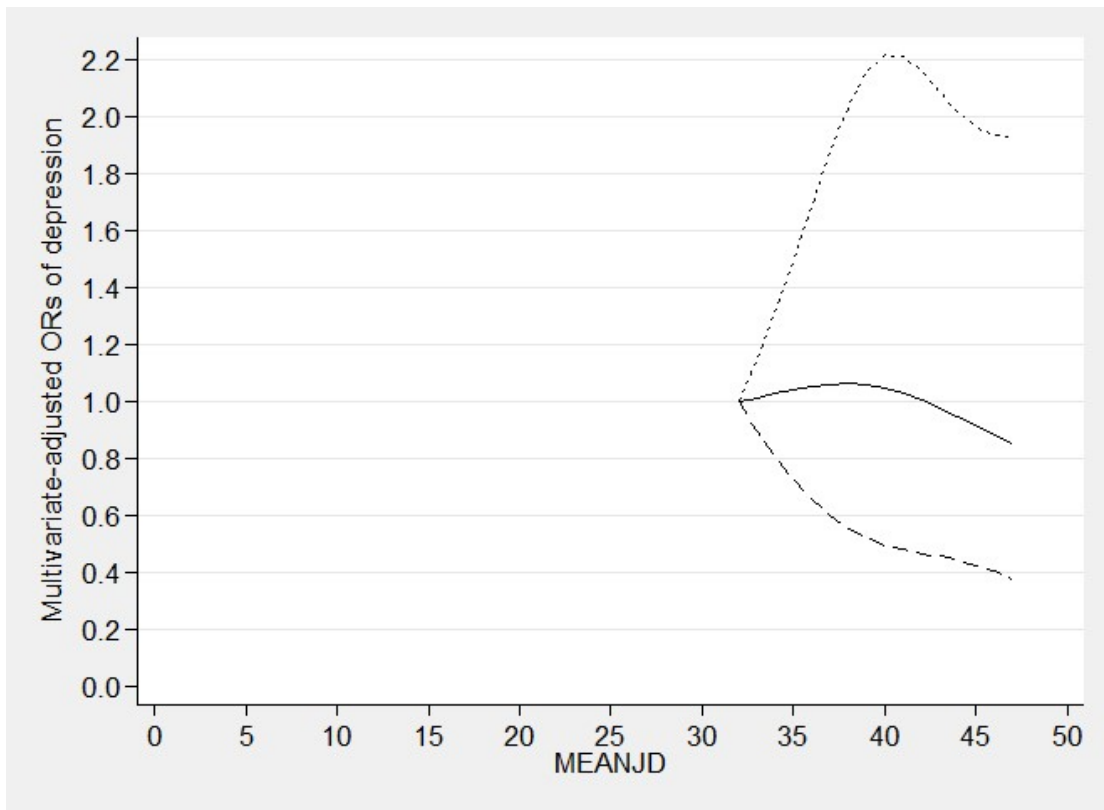
Figure S1. Dose-response relationships between JD and depressive symptoms.
The associations were adjusted for age, sex, race, educational status, household income, marital status, BMI, energy intake, smoking status, alcohol use, antidepressant use, hypertension, and diabetes. The solid line and dashed line represent the estimated ORs and its 95% CI. CI, confidence intervals; OR, odds ratio. JD, Jaccard distance. The values were multiplied by 100 to facilitate calculation.