

Life's Essential 8 is inversely associated with high-sensitivity C-reactive protein

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Supplementary Table 1. Odds ratios for the continuous (splines) associations of LE8 global, LE8 health behaviors and LE8 health factors scores with high-risk hs-CRP

	Unadjusted	Adjusted¹
LE8 global	OR (95% CI)	OR (95% CI)
30	17.04 (13.88-20.93)	16.25 (13.14-20.09)
40	9.88 (8.60-11.36)	9.67 (8.36-11.18)
50	5.73 (5.21-6.31)	5.75 (5.20-6.36)
60	3.30 (2.99-3.63)	3.38 (3.06-3.74)
70	1.80 (1.70-1.91)	1.84 (1.74-1.96)
80	Reference	Reference
90	0.61 (0.52-0.71)	0.60 (0.51-0.69)
100	0.38 (0.27-0.53)	0.36 (0.26-0.50)
LE8 health behaviors	OR (95 % CI)	OR (95 % CI)
30	3.16 (2.63-3.79)	2.53 (2.10-3.06)
40	2.54 (2.24-2.89)	2.13 (1.87-2.44)
50	2.05 (1.87-2.25)	1.79 (1.63-1.98)
60	1.64 (1.50-1.79)	1.50 (1.37-1.65)
70	1.29 (1.20-1.39)	1.24 (1.15-1.33)
80	Reference	Reference
90	0.87 (0.78-0.97)	0.87 (0.78-0.96)
100	0.79 (0.61-1.01)	0.77 (0.60-0.99)
LE8 health factors	OR (95 % CI)	OR (95 % CI)
30	6.61 (5.93-7.37)	6.93 (6.19-7.77)
40	4.32 (3.94-4.74)	4.54 (4.12-5.00)
50	2.86 (2.59-3.15)	3.00 (2.71-3.32)
60	1.96 (1.80-2.13)	2.04 (1.87-2.22)
70	1.41 (1.35-1.46)	1.44 (1.38-1.49)
80	Reference	Reference
90	0.69 (0.63-0.75)	0.68 (0.62-0.74)
100	0.47 (0.38-0.57)	0.45 (0.37-0.55)

¹ Odds ratios were adjusted for age, sex, study center, education, and alcohol use. CI: confidence interval, CVH: cardiovascular health status, hs-CRP: high-sensitivity C-reactive protein, LE8: Life's Essential 8, OR: odds ratio.

Supplementary Table 2. Odds ratios for the categorical associations of LE8 global, LE8 health behaviors and LE8 health factors scores with high-risk hs-CRP

	Unadjusted	Adjusted¹
LE8 global	OR (95% CI)	OR (95% CI)
≤49	9.11 (7.80-10.66)	8.80 (7.47-10.37)
50-79	3.00 (2.69-3.35)	3.03 (2.71-3.40)
≥80	Reference	Reference
LE8 health behaviors	OR (95% CI)	OR (95% CI)
≤49	2.65 (2.32-3.02)	2.34 (2.04-2.68)
50-79	1.55 (1.44-1.67)	1.49 (1.38-1.60)
≥80	Reference	Reference
LE8 health factors	OR (95% CI)	OR (95% CI)
≤49	6.00 (5.37-6.70)	6.46 (5.75-7.26)
50-79	2.39 (2.16-2.65)	2.50 (2.25-2.78)
≥80	Reference	Reference

¹ Odds ratios were adjusted for age, sex, study center, education and alcohol use. CI: confidence interval, CVH: cardiovascular health status, hs-CRP: high-sensitivity C-reactive protein, LE8: Life's Essential 8, OR: odds ratio.

Supplementary Table 3. Odds ratios for the associations of LE8 health behaviors and LE8 health factors Z scores with high-risk hs-CRP

	Unadjusted		Adjusted ¹	
	OR (95% CI)	P	OR (95% CI)	P
LE8 health behaviors				
Diet	0.90 (0.87-0.93)	<0.001	0.88 (0.85-0.91)	<0.001
Physical activity	0.82 (0.80-0.84)	<0.001	0.84 (0.82-0.86)	<0.001
Smoking	0.82 (0.80-0.85)	<0.001	0.86 (0.81-0.89)	<0.001
Sleep	0.87 (0.85-0.90)	<0.001	0.90 (0.87-0.93)	<0.001
LE8 health factors				
BMI	0.48 (0.46-0.49)	<0.001	0.48 (0.47-0.50)	<0.001
Non-HDL cholesterol	0.83 (0.81-0.86)	<0.001	0.84 (0.81-0.87)	<0.001
Blood glucose	0.70 (0.68-0.73)	<0.001	0.70 (0.68-0.73)	<0.001
Blood pressure	0.73 (0.70-0.75)	<0.001	0.71 (0.69-0.74)	<0.001

LE8 health behaviors and LE8 health factors are summarized as Z scores (mean=0, SD=1).
¹ Odds ratios were adjusted for age, sex, study center, education level, and alcohol use.
 CI: confidence intervals, CVH: cardiovascular health, HDL: high-density lipoprotein, hs-CRP: high-sensitivity C-reactive protein, LE8: Life's Essential 8, OR: odds ratio, SD: standard deviation.

Supplementary Table 4. Sensitivity analysis, odds ratios for the associations of global LE8 score and LE8 health behavior score with high-risk hs-CRP considering a conservative cut-off for physical activity (300 minutes of moderate or greater intensity of physical activity per week)

	OR¹ (95% CI)	P
LE8 global		
≤49	9.48 (8.12-11.05)	<0.001
50-79	2.93 (2.60-3.29)	<0.001
≥80	Reference	
LE8 health behaviors		
≤49	2.67 (2.37-3.02)	<0.001
50-79	1.52 (1.41-1.64)	<0.001
≥80	Reference	

¹ Odds ratios were adjusted for age, sex, study center, education level and alcohol use.

CI: confidence intervals, hs-CRP: high-sensitivity C-reactive protein, LE8: Life's Essential 8, OR: odds ratio.

Supplementary Table 5. Sensitivity analysis, odds ratios for the associations of global LE8 score with high-risk hs-CRP considering additional adjustments for economic status and history of cardiovascular disease

Main analysis		
LE8 global score	OR¹ (95% CI)	P
≤49	8.80 (7.47-10.37)	<0.001
50-79	3.03 (2.71-3.40)	<0.001
≥80	Reference	
Main analysis + economic status		
LE8 global score	OR² (95% CI)	P
≤49	8.05 (6.81-9.52)	<0.001
50-79	2.91 (2.60-3.26)	<0.001
≥80	Reference	
Main analysis + history of cardiovascular diseases status		
LE8 global score	OR³ (95% CI)	P
≤49	8.60 (7.28-10.16)	<0.001
50-79	2.97 (2.66-3.33)	<0.001
≥80	Reference	

¹ Odds ratios were adjusted for age, sex, study center, education level and alcohol use.

² Additional adjustment for economic status.

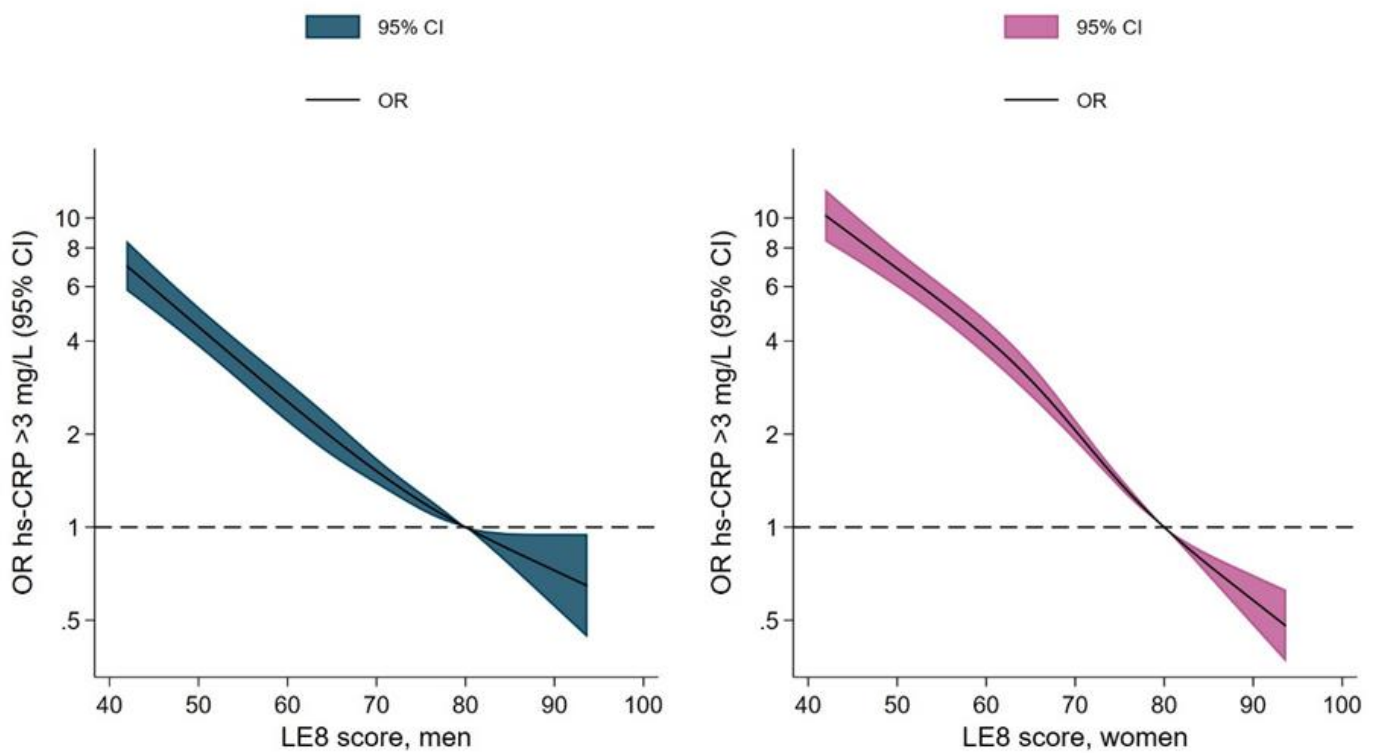
³ Additional adjustment for history of cardiovascular disease (self-reported myocardial infarction, coronary artery bypass grafting, percutaneous coronary intervention, stroke, or peripheral arterial disease intervention).

CI: confidence intervals, hs-CRP: high-sensitivity C-reactive protein, LE8: Life's Essential 8, OR: odds ratio.

Supplementary Table 6. Sensitivity analysis, odds ratios for the association of global LE8 score with high-risk hs-CRP including participants (n=665) with hs-CRP >10 mg/L

LE8 global	OR¹ (95% CI)
≤49	8.38 (7.17-9.79)
50-79	2.84 (2.56-3.14)
≥80	Reference
LE8 health behaviors	OR (95% CI)
≤49	2.28 (1.99-2.60)
50-79	1.43 (1.33-1.53)
≥80	Reference
LE8 health factors	OR (95% CI)
≤49	5.89 (5.28-6.56)
50-79	2.33 (2.12-2.57)
≥80	Reference

¹ Odds ratios were adjusted for age, sex, study center, education and alcohol use.
 CI: confidence interval, CVH: cardiovascular health status, hs-CRP: high-sensitivity C-reactive protein, LE8: Life's Essential 8, OR: odds ratio.



Supplementary Figure 1. Odds ratios for the association of LE8 scores with high-risk hs-CRP by sex.

Spline analyses show adjusted odds ratios (solid line) and 95% confidence intervals (colored area) for high-risk hs-CRP (>3.0 mg/L) according to LE8 scores.

Odds ratios were adjusted for age, study center, education and alcohol use.

Reference categories were set at 80 points. X-axes were truncated at the 1st and 99th percentile of LE8 values.

CI: confidence interval, hs-CRP: high-sensitivity C-reactive protein, LE8: Life's Essential 8 score, OR: odds ratio.