

Smoking does not accelerate leukocyte telomere attrition: a meta-analysis of 18 longitudinal cohorts

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Supplementary Information: Table S1. Summary of LTL data used in the meta-analysis.

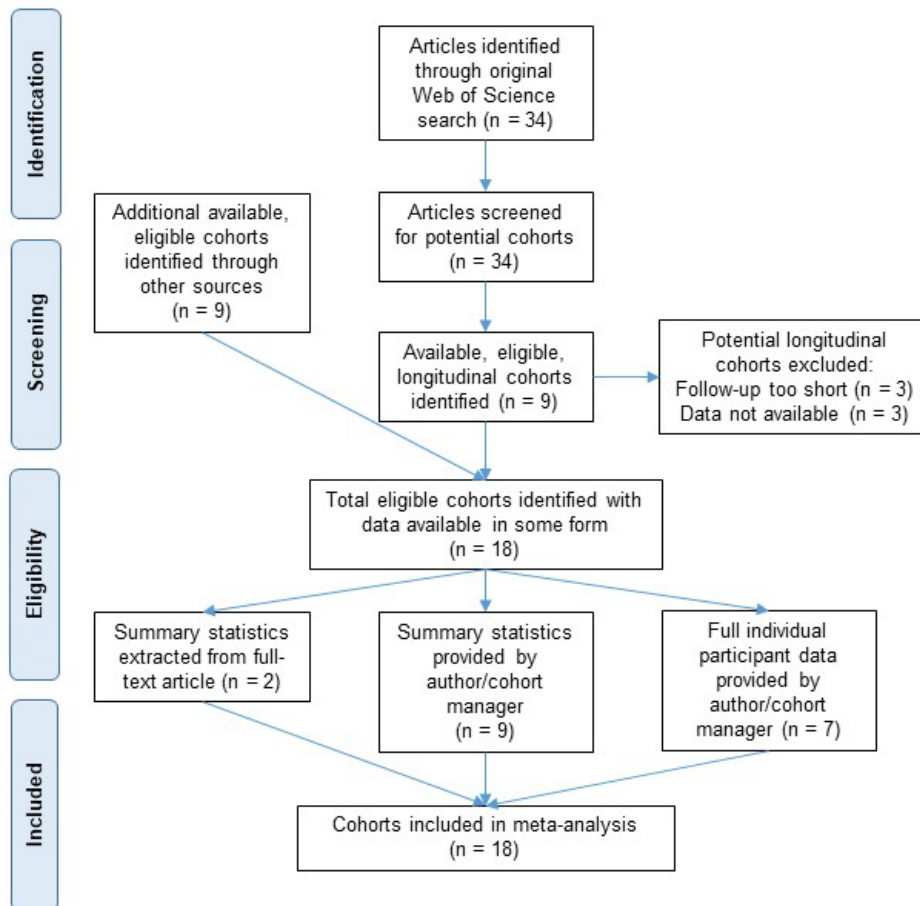
Cohort ¹	LTL measurement		Baseline TL				Follow-up TL				Telomere attrition (/year)				Pearson correlation between baseline and follow-up LTL	
			Smokers		Non-smokers		Smokers		Non-smokers		Smokers		Non-smokers		r	p-value
			Mean	sd	Mean	sd	Mean	sd	Mean	sd	Mean	sd	Mean	sd		
ADE	TRF	bp	6290.00	721.25	6378.57	465.85	6155.00	855.60	6128.57	490.83	16.44	15.56	30.02	24.20	0.92	<0.0001*
BHS	TRF	bp	7392.00	777.00	7481.00	777.00	7150.00	772.00	7270.00	772.00	42.00	46.00	40.00	46.00	0.95	<0.0001*
BRUNECK	qPCR	T/S	1.64	0.83	1.68	0.84	1.15	0.61	1.18	0.55	0.05	0.06	0.05	0.06	0.64	<0.0001*
CCHS	qPCR	bp	4318.00	1047.00	4434.00	1062.00	4042.00	1010.00	4116.00	1031.00	28.00	120.00	33.00	122.00	0.39	<0.0001*
CCS	qPCR	bp	4302.39	1591.62	4506.89	1867.65	3438.83	1472.86	3080.53	938.18	112.76	288.71	183.06	261.03	0.03	0.5990
DMHDS	qPCR	T/S	1.17	0.37	1.20	0.41	1.02	0.31	1.05	0.31	0.01	0.02	0.01	0.03	0.66	<0.0001*
ERA	TRF	bp	5860.00	0.00	6428.84	620.03	5710.00	0.00	6198.26	601.17	16.04	0.00	24.34	15.52	0.97	<0.0001*
ESTHER	qPCR	bp	5940.00	384.49	6020.00	315.18	5190.00	522.04	5810.00	616.72	1.30	84.35	14.50	99.80	NA	NA
HAS	qPCR	bp	5490.26	1464.64	5417.45	1443.86	3637.15	1539.88	4048.20	1446.62	204.74	265.92	149.04	236.01	-0.16	0.0919
HSS	qPCR	bp	5546.32	543.21	5483.28	527.85	5325.56	406.29	5277.76	344.28	46.12	119.89	42.05	102.77	0.40	<0.0001*
JLRCS	TRF	bp	7253.00	650.00	7361.00	673.00	6907.00	590.00	7053.00	644.00	26.50	14.00	23.50	13.60	0.96	<0.0001*
LBC1921	qPCR	bp	3912.37	301.05	4096.44	457.96	3290.00	770.88	3542.61	791.46	49.64	33.08	64.34	138.97	0.35	0.0017*
LBC1936	qPCR	bp	4073.34	579.07	4207.34	571.33	3680.81	648.08	3805.03	708.36	86.94	119.95	66.38	112.14	0.54	<0.0001*
MONICA	qPCR	T/S	0.75	0.16	0.74	0.16	0.65	0.19	0.67	0.20	0.01	0.02	0.01	0.02	0.37	<0.0001*
NESDA	qPCR	bp	5407.29	623.56	5511.60	614.67	5370.51	403.03	5440.66	446.86	6.13	96.55	11.82	95.26	0.45	<0.0001*
NSHD	qPCR	bp	5610.81	2017.47	5792.41	1827.71	4241.11	1236.59	4297.16	1345.08	148.61	235.88	160.14	234.61	0.12	0.0102*
PREVEND	qPCR	T/S	1.05	0.32	1.09	0.32	1.00	0.36	1.07	0.35	0.01	0.07	0.00	0.07	0.13	<0.0001*
SATSA	qPCR	T/S	0.73	0.19	0.73	0.22	0.72	0.15	0.74	0.17	0.00	0.03	0.00	0.03	0.39	<0.0001*

¹Full details of each cohort are provided in Table 1; ²Measurement methods for LTL: TRF = terminal restriction fragment and qPCR = quantitative polymerase chain reaction; ³Units of LTL measurement: bp = base pairs and T/S = T/S ratios.

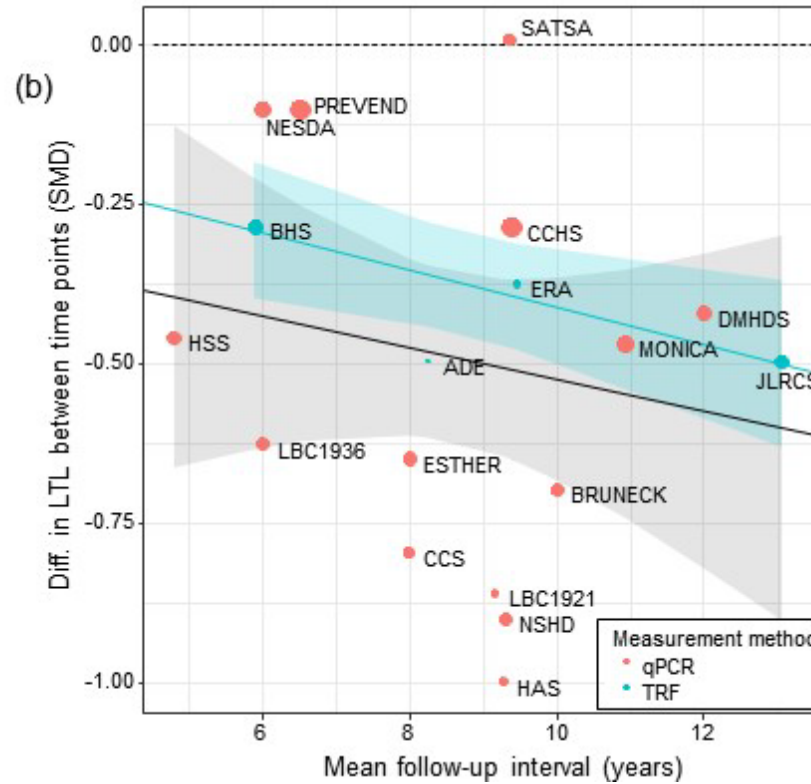
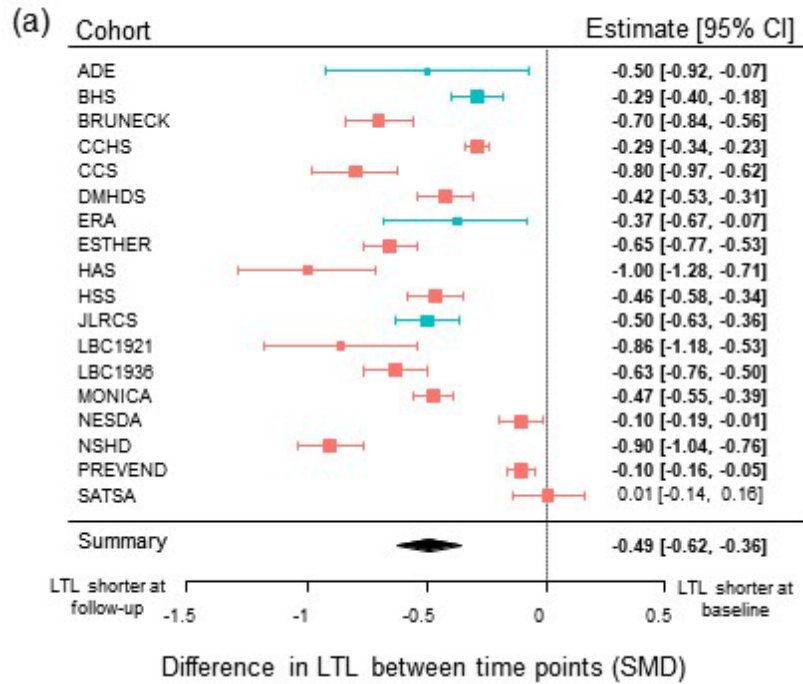
Supplementary Information: Table S2. Results from the leave-one-out sensitivity analysis of model 6.

Cohort omitted	Summary SMD		Heterogeneity statistics				
	Estimate* [95% CI]	p-value	Q ₁₆	p-value	τ^2	I ² (%)	H ²
ADE	-0.02 [-0.07, 0.04]	0.5116	24.06	0.0881	0.00	37.93	1.61
BHS	-0.02 [-0.08, 0.05]	0.6091	24.56	0.078	0.01	41.03	1.70
BRUNECK	-0.02 [-0.08, 0.04]	0.5257	24.64	0.0764	0.00	40.44	1.68
CCHS	-0.03 [-0.09, 0.03]	0.3793	21.65	0.155	0.00	32.98	1.49
CCS	-0.03 [-0.08, 0.03]	0.2978	19.97	0.2215	0.00	30.71	1.44
DMHDS	-0.02 [-0.08, 0.04]	0.5217	24.61	0.077	0.01	40.93	1.69
ERA	-0.02 [-0.07, 0.04]	0.5214	24.39	0.0814	0.00	37.93	1.61
ESTHER	-0.03 [-0.08, 0.03]	0.3552	22.49	0.1282	0.00	34.74	1.53
HAS	-0.02 [-0.07, 0.04]	0.5973	23.93	0.091	0.00	38.05	1.61
HSS	-0.02 [-0.08, 0.04]	0.5721	24.64	0.0764	0.00	40.12	1.67
JLRCS	-0.01 [-0.06, 0.05]	0.8152	20.47	0.1996	0.00	29.70	1.42
LBC1921	-0.02 [-0.07, 0.04]	0.5256	24.64	0.0765	0.00	38.03	1.61
LBC1936	-0.01 [-0.07, 0.05]	0.6828	23.16	0.1096	0.00	36.99	1.59
MONICA	0.00 [-0.05, 0.05]	0.9947	18.39	0.3017	0.00	13.68	1.16
NESDA	-0.03 [-0.09, 0.03]	0.3918	23.27	0.1068	0.00	36.71	1.58
NSHD	-0.02 [-0.08, 0.04]	0.4743	24.33	0.0825	0.00	39.61	1.66
PREVEND	-0.01 [-0.08, 0.05]	0.6692	23.98	0.09	0.01	38.68	1.63
SATSA	-0.02 [-0.07, 0.04]	0.6088	24.25	0.0841	0.00	38.80	1.63

*Negative parameter estimates for the summary standardized mean difference (SMD) correspond to faster attrition in smokers. The cohort with the largest influence is shaded.



Supplementary Information: Fig. S1. PRISMA diagram detailing the source of the data for the meta-analysis. Nine of the cohorts included in the final meta-analysis were identified via an initial systematic literature search and the other nine were identified via a process of snowballing.



Supplementary Information: Fig. S2. LTL decreases with increasing age. (a) Forest plot showing that LTL is significantly shorter at follow-up compared to baseline. For key see Fig. 2. (b) Scatterplot showing that longer follow-up intervals are associated with a greater decline in LTL between baseline and follow-up. The black line shows the estimate from a random-effects meta-regression obtained by adding mean follow-up interval as a moderator to model 1; this estimate is based on all 18 cohorts in the plot. For key see Fig. 3b. The additional blue line shows the estimate from the same meta-regression ($\pm 95\%$ CI) based on the subset of cohorts measured using TRF.