

Supplemental Online Content

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This supplemental material has been provided by the authors to give readers additional information about their work.

eTable 1. Number of Losses and Biological Aging ($n = 3,963$)

Horvath						
	b	se	p		95% CI (Lower Limit)	95% CI (Upper Limit)
One Loss: Yes ^a	-0.01	0.05	0.784		-0.10	0.08
Two or More Losses: Yes ^a	-0.09	0.07	0.236		-0.23	0.06
Age	-0.02	0.01	0.185		-0.04	0.01
Race: Black ^b	0.01	0.08	0.920		-0.15	0.17
Race: Hispanic ^b	-0.19	0.10	0.069		-0.39	0.01
Race: Other ^{b,c}	0.02	0.09	0.802		-0.15	0.19
Parent Education: High School ^d	0.15	0.06	0.012	*	0.03	0.27
Parent Education: Some College ^d	0.07	0.05	0.179		-0.03	0.16
Gender: Female ^e	-0.34	0.05	0.000	***	-0.43	-0.25
Proportion of Households under Poverty	0.09	0.19	0.644		-0.29	0.46
No. of Household Members	0.01	0.02	0.718		-0.03	0.05
Caregiver Smokes: Yes ^f	-0.08	0.05	0.172		-0.18	0.03
Epigenetic Assay: Batch 1 ^g	0.28	0.20	0.175		-0.13	0.68
Epigenetic Assay: Batch 2 ^g	0.41	0.20	0.045	*	0.01	0.80
CD4T	-0.91	1.40	0.520		-3.69	1.88
CD8T	3.69	1.45	0.012	*	0.81	6.56
Bcell	0.37	1.36	0.788		-2.33	3.06
NK	3.13	1.64	0.058		-0.11	6.38
Mono	-0.97	1.74	0.580		-4.41	2.48
Gran	1.44	1.33	0.283		-1.20	4.08
PhenoAge						
	b	se	p		95% CI (Lower Limit)	95% CI (Upper Limit)
One Loss: Yes ^a	0.07	0.05	0.122		-0.02	0.16
Two or More Losses: Yes ^a	0.18	0.06	0.005	**	0.05	0.30
Age	-0.02	0.01	0.133		-0.04	0.01
Race: Black ^b	0.03	0.08	0.716		-0.12	0.18
Race: Hispanic ^b	0.04	0.09	0.631		-0.13	0.22
Race: Other ^{b,c}	0.06	0.10	0.582		-0.15	0.26
Parent Education: High School ^d	0.24	0.05	0.000	***	0.14	0.34
Parent Education: Some College ^d	0.15	0.05	0.006	**	0.05	0.26
Gender: Female ^e	0.10	0.04	0.016	*	0.02	0.18
Proportion of Households under Poverty	0.25	0.23	0.282		-0.20	0.70
No. of Household Members	-0.02	0.02	0.229		-0.06	0.01
Caregiver Smokes: Yes ^f	0.07	0.05	0.141		-0.02	0.17

Epigenetic Assay: Batch 1 ^g	-0.26	0.13	0.053		-0.53	0.00
Epigenetic Assay: Batch 2 ^g	-0.23	0.14	0.088		-0.50	0.04
CD4T	1.01	1.39	0.466		-1.73	3.76
CD8T	1.11	1.34	0.410		-1.55	3.77
Bcell	1.06	1.62	0.516		-2.16	4.28
NK	6.01	1.58	0.000	***	2.88	9.15
Mono	6.90	1.77	0.000	***	3.39	10.40
Gran	5.86	1.34	0.000	***	3.20	8.52

GrimAge

	b	se	p		95% CI (Lower Limit)	95% CI (Upper Limit)
One Loss: Yes ^a	0.17	0.05	0.001	***	0.07	0.27
Two or More Losses: Yes ^a	0.27	0.08	0.001	**	0.11	0.44
Age	-0.05	0.01	0.000	***	-0.07	-0.03
Race: Black ^b	0.29	0.07	0.000	***	0.15	0.43
Race: Hispanic ^b	-0.34	0.08	0.000	***	-0.49	-0.18
Race: Other ^{b,c}	0.02	0.10	0.806		-0.16	0.21
Parent Education: High School ^d	0.37	0.06	0.000	***	0.26	0.48
Parent Education: Some College ^d	0.26	0.05	0.000	***	0.15	0.36
Gender: Female ^e	-0.49	0.04	0.000	***	-0.57	-0.41
Proportion of Households under Poverty	0.59	0.24	0.017	*	0.11	1.08
No. of Household Members	0.02	0.02	0.225		-0.02	0.06
Caregiver Smokes: Yes ^f	0.42	0.05	0.000	***	0.31	0.53
Epigenetic Assay: Batch 1 ^g	-0.17	0.27	0.524		-0.71	0.37
Epigenetic Assay: Batch 2 ^g	0.22	0.27	0.418		-0.31	0.75
CD4T	1.75	1.18	0.140		-0.58	4.08
CD8T	0.95	1.17	0.419		-1.37	3.26
Bcell	0.56	1.39	0.691		-2.21	3.32
NK	-0.86	1.35	0.526		-3.52	1.81
Mono	1.85	1.41	0.192		-0.94	4.65
Gran	3.66	1.12	0.001	**	1.44	5.89

DunedinPACE

	b	se	p		95% CI (Lower Limit)	95% CI (Upper Limit)
One Loss: Yes ^a	0.16	0.05	0.001	***	0.07	0.25
Two or More Losses: Yes ^a	0.22	0.06	0.000	***	0.11	0.34
Age	0.01	0.01	0.237		-0.01	0.04
Race: Black ^b	0.47	0.07	0.000	***	0.33	0.61
Race: Hispanic ^b	0.10	0.10	0.284		-0.09	0.30
Race: Other ^{b,c}	0.29	0.10	0.006	**	0.09	0.50

Parent Education: High School ^d	0.45	0.05	0.000	***	0.34	0.55
Parent Education: Some College ^d	0.26	0.05	0.000	***	0.15	0.36
Gender: Female ^e	0.11	0.04	0.007	**	0.03	0.19
Proportion of Households under Poverty	0.72	0.23	0.002	**	0.27	1.17
No. of Household Members	0.01	0.02	0.418		-0.02	0.05
Caregiver Smokes: Yes ^f	0.18	0.05	0.001	***	0.07	0.28
Epigenetic Assay: Batch 1 ^g	0.02	0.12	0.887		-0.22	0.26
Epigenetic Assay: Batch 2 ^g	0.08	0.12	0.487		-0.15	0.32
CD4T	-1.33	1.38	0.340		-4.06	1.41
CD8T	-1.91	1.30	0.146		-4.48	0.67
Bcell	3.70	1.53	0.017	*	0.67	6.73
NK	-2.02	1.49	0.177		-4.97	0.92
Mono	0.98	1.49	0.512		-1.97	3.93
Gran	2.35	1.33	0.079		-0.28	4.99

Note: a = No Loss (reference) b = White (reference); c = Asian, Native American, Pacific Islander, Other (other race or multi-racial); d = College or Higher reference; e = Male (reference); f = No (reference); g = Batch 3 (reference)

* $p \leq 0.05$; ** $p \leq 0.01$; *** $p \leq 0.001$

NK - Natural Killer; Mono - Monocytes; Gran - Granulocytes

eTable 2. Parental Loss at Any Time Period (Childhood to Adulthood) and Biological Aging ($n = 3,963$)

Horvath						
	b	se	p		95% CI (Lower Limit)	95% CI (Upper Limit)
Parental Loss: Yes ^a	0.00	0.05	0.983		-0.10	0.09
Age	-0.02	0.01	0.147		-0.04	0.01
Race: Black ^b	0.00	0.08	0.997		-0.16	0.16
Race: Hispanic ^b	-0.18	0.10	0.076		-0.39	0.02
Race: Other ^{b,c}	0.02	0.08	0.801		-0.15	0.19
Parent Education: High School ^d	0.15	0.06	0.016	*	0.03	0.27
Parent Education: Some College ^d	0.06	0.05	0.202		-0.03	0.16
Gender: Female ^e	-0.34	0.05	0.000	***	-0.43	-0.25
Proportion of Households under Poverty	0.07	0.19	0.711		-0.30	0.44
No. of Household Members	0.01	0.02	0.700		-0.03	0.05
Caregiver Smokes: Yes ^f	-0.08	0.06	0.149		-0.19	0.03
Epigenetic Assay: Batch 1 ^g	0.27	0.21	0.189		-0.14	0.68
Epigenetic Assay: Batch 2 ^g	0.40	0.20	0.049	*	0.00	0.80
CD4T	-0.92	1.41	0.514		-3.71	1.87
CD8T	3.67	1.45	0.013	*	0.79	6.55
Bcell	0.33	1.37	0.808		-2.38	3.04
NK	3.12	1.64	0.060		-0.13	6.37
Mono	-0.96	1.74	0.583		-4.41	2.49
Gran	1.42	1.34	0.290		-1.23	4.07
PhenoAge						
	b	se	p		95% CI (Lower Limit)	95% CI (Upper Limit)
Parental Loss: Yes ^a	0.11	0.04	0.015	*	0.02	0.20
Age	-0.02	0.01	0.145		-0.04	0.01
Race: Black ^b	0.03	0.08	0.685		-0.12	0.18
Race: Hispanic ^b	0.04	0.09	0.685		-0.14	0.22
Race: Other ^{b,c}	0.05	0.10	0.616		-0.15	0.26
Parent Education: High School ^d	0.24	0.05	0.000	***	0.14	0.35
Parent Education: Some College ^d	0.16	0.05	0.005	**	0.05	0.26
Gender: Female ^e	0.10	0.04	0.016	*	0.02	0.18
Proportion of Households under Poverty	0.26	0.23	0.258		-0.19	0.71
No. of Household Members	-0.02	0.02	0.269		-0.06	0.02
Caregiver Smokes: Yes ^f	0.07	0.05	0.135		-0.02	0.17
Epigenetic Assay: Batch 1 ^g	-0.27	0.13	0.050		-0.53	0.00
Epigenetic Assay: Batch 2 ^g	-0.24	0.14	0.082		-0.51	0.03
CD4T	1.05	1.39	0.450		-1.70	3.81
CD8T	1.16	1.35	0.389		-1.50	3.83

Bcell	1.16	1.63	0.478		-2.07	4.39
NK	6.07	1.58	0.000	***	2.93	9.21
Mono	6.90	1.78	0.000	***	3.38	10.42
Gran	5.91	1.35	0.000	***	3.24	8.58

GrimAge

	b	se	p		95% CI (Lower Limit)	95% CI (Upper Limit)
Parental Loss: Yes ^a	0.20	0.05	0.000	***	0.10	0.29
Age	-0.05	0.01	0.000	***	-0.07	-0.03
Race: Black ^b	0.30	0.07	0.000	***	0.16	0.43
Race: Hispanic ^b	-0.34	0.08	0.000	***	-0.50	-0.18
Race: Other ^{b,c}	0.02	0.10	0.835		-0.17	0.21
Parent Education: High School ^d	0.38	0.06	0.000	***	0.27	0.50
Parent Education: Some College ^d	0.26	0.05	0.000	***	0.16	0.37
Gender: Female ^e	-0.49	0.04	0.000	***	-0.57	-0.41
Proportion of Households under Poverty	0.61	0.25	0.015	*	0.12	1.10
No. of Household Members	0.03	0.02	0.182		-0.01	0.07
Caregiver Smokes: Yes ^f	0.42	0.05	0.000	***	0.31	0.53
Epigenetic Assay: Batch 1 ^g	-0.18	0.27	0.500		-0.72	0.35
Epigenetic Assay: Batch 2 ^g	0.21	0.26	0.435		-0.32	0.73
CD4T	1.79	1.17	0.130		-0.53	4.11
CD8T	1.02	1.16	0.381		-1.28	3.32
Bcell	0.69	1.41	0.624		-2.09	3.48
NK	-0.80	1.33	0.550		-3.44	1.84
Mono	1.84	1.42	0.197		-0.97	4.64
Gran	3.73	1.12	0.001	**	1.52	5.94

DunedinPACE

	b	se	p		95% CI (Lower Limit)	95% CI (Upper Limit)
Parental Loss: Yes ^a	0.19	0.04	0.000	***	0.10	0.27
Age	0.01	0.01	0.223		-0.01	0.04
Race: Black ^b	0.47	0.07	0.000	***	0.33	0.62
Race: Hispanic ^b	0.10	0.10	0.307		-0.10	0.30
Race: Other ^{b,c}	0.29	0.10	0.006	**	0.08	0.49
Parent Education: High School ^d	0.46	0.05	0.000	***	0.35	0.56
Parent Education: Some College ^d	0.26	0.05	0.000	***	0.16	0.36
Gender: Female ^e	0.11	0.04	0.007	**	0.03	0.19
Proportion of Households under Poverty	0.73	0.23	0.002	**	0.28	1.18
No. of Household Members	0.02	0.02	0.346		-0.02	0.05
Caregiver Smokes: Yes ^f	0.18	0.05	0.001	***	0.07	0.28
Epigenetic Assay: Batch 1 ^g	0.01	0.12	0.958		-0.23	0.25

Epigenetic Assay: Batch 2 ^g	0.07	0.12	0.545		-0.16	0.31
CD4T	-1.29	1.38	0.350		-4.03	1.44
CD8T	-1.84	1.30	0.159		-4.42	0.73
Bcell	3.81	1.54	0.015	*	0.77	6.86
NK	-1.98	1.48	0.185		-4.92	0.96
Mono	0.97	1.49	0.519		-1.99	3.93
Gran	2.40	1.33	0.073		-0.22	5.03

Note: a = No Loss (reference) b = White (reference); c = Asian, Native American, Pacific Islander, Other (other race or multi-racial); d = College or Higher reference; e = Male (reference); f = No (reference); g = Batch 3 (reference)

* $p \leq 0.05$; ** $p \leq 0.01$; *** $p \leq 0.001$

NK - Natural Killer; Mono - Monocytes; Gran - Granulocytes

eTable 3. Any Loss in Childhood and in Adulthood and Biological Aging (*n* = 3,963)

Horvath						
	b	se	p		95% CI (Lower Limit)	95% CI (Upper Limit)
Any Loss in Childhood: Yes ^a	-0.04	0.07	0.561		-0.19	0.10
Any Loss in Adulthood: Yes ^a	-0.01	0.05	0.824		-0.11	0.09
Age	-0.02	0.01	0.152		-0.04	0.01
Race: Black ^b	0.00	0.08	0.964		-0.16	0.16
Race: Hispanic ^b	-0.18	0.10	0.075		-0.39	0.02
Race: Other ^{b,c}	0.02	0.09	0.792		-0.15	0.19
Parent Education: High School ^d	0.15	0.06	0.015	*	0.03	0.27
Parent Education: Some College ^d	0.06	0.05	0.203		-0.03	0.16
Gender: Female ^e	-0.34	0.05	0.000	***	-0.43	-0.25
Proportion of Households under Poverty	0.08	0.19	0.683		-0.29	0.45
No. of Household Members	0.01	0.02	0.720		-0.03	0.05
Caregiver Smokes: Yes ^f	-0.08	0.06	0.161		-0.19	0.03
Epigenetic Assay: Batch 1 ^g	0.27	0.21	0.186		-0.13	0.68
Epigenetic Assay: Batch 2 ^g	0.40	0.20	0.048	*	0.00	0.80
CD4T	-0.91	1.40	0.516		-3.69	1.87
CD8T	3.67	1.45	0.013	*	0.79	6.54
Bcell	0.35	1.37	0.799		-2.36	3.06
NK	3.12	1.64	0.059		-0.12	6.36
Mono	-0.96	1.74	0.582		-4.41	2.49
Gran	1.42	1.33	0.288		-1.22	4.06
PhenoAge						
	b	se	p		95% CI (Lower Limit)	95% CI (Upper Limit)
Any Loss in Childhood: Yes ^a	0.12	0.07	0.084		-0.02	0.26
Any Loss in Adulthood: Yes ^a	0.08	0.05	0.082		-0.01	0.18
Age	-0.02	0.01	0.163		-0.04	0.01
Race: Black ^b	0.03	0.08	0.675		-0.12	0.18
Race: Hispanic ^b	0.04	0.09	0.660		-0.14	0.22
Race: Other ^{b,c}	0.06	0.11	0.591		-0.15	0.27
Parent Education: High School ^d	0.24	0.05	0.000	***	0.14	0.34
Parent Education: Some College ^d	0.16	0.05	0.004	**	0.05	0.26
Gender: Female ^e	0.10	0.04	0.019	*	0.02	0.18
Proportion of Households under Poverty	0.25	0.23	0.266		-0.19	0.70
No. of Household Members	-0.02	0.02	0.254		-0.06	0.02
Caregiver Smokes: Yes ^f	0.07	0.05	0.140		-0.02	0.17

Epigenetic Assay: Batch 1 ^g	-0.26	0.13	0.057		-0.52	0.01
Epigenetic Assay: Batch 2 ^g	-0.23	0.14	0.093		-0.50	0.04
CD4T	1.03	1.38	0.458		-1.71	3.76
CD8T	1.16	1.34	0.391		-1.50	3.82
Bcell	1.10	1.62	0.499		-2.11	4.30
NK	6.05	1.58	0.000	***	2.93	9.17
Mono	6.90	1.77	0.000	***	3.39	10.42
Gran	5.89	1.34	0.000	***	3.24	8.55

GrimAge

	b	se	p		95% CI (Lower Limit)	95% CI (Upper Limit)
Any Loss in Childhood: Yes ^a	0.13	0.09	0.126		-0.04	0.30
Any Loss in Adulthood: Yes ^a	0.15	0.05	0.003	**	0.05	0.25
Age	-0.05	0.01	0.000	***	-0.07	-0.03
Race: Black ^b	0.30	0.07	0.000	***	0.17	0.44
Race: Hispanic ^b	-0.33	0.08	0.000	***	-0.49	-0.18
Race: Other ^{b,c}	0.03	0.10	0.758		-0.16	0.22
Parent Education: High School ^d	0.38	0.06	0.000	***	0.27	0.50
Parent Education: Some College ^d	0.27	0.05	0.000	***	0.16	0.37
Gender: Female ^e	-0.50	0.04	0.000	***	-0.58	-0.42
Proportion of Households under Poverty	0.60	0.24	0.015	*	0.12	1.09
No. of Household Members	0.03	0.02	0.214		-0.01	0.06
Caregiver Smokes: Yes ^f	0.42	0.06	0.000	***	0.31	0.53
Epigenetic Assay: Batch 1 ^g	-0.17	0.28	0.548		-0.71	0.38
Epigenetic Assay: Batch 2 ^g	0.22	0.27	0.403		-0.31	0.76
CD4T	1.77	1.19	0.141		-0.60	4.13
CD8T	1.01	1.18	0.394		-1.33	3.36
Bcell	0.63	1.43	0.660		-2.20	3.46
NK	-0.82	1.36	0.549		-3.51	1.87
Mono	1.85	1.42	0.195		-0.96	4.66
Gran	3.72	1.14	0.001	**	1.46	5.97

DunedinPACE

	b	se	p		95% CI (Lower Limit)	95% CI (Upper Limit)
Any Loss in Childhood: Yes ^a	0.09	0.08	0.271		-0.07	0.26
Any Loss in Adulthood: Yes ^a	0.14	0.04	0.002	**	0.06	0.23
Age	0.01	0.01	0.207		-0.01	0.04
Race: Black ^b	0.48	0.07	0.000	***	0.34	0.62
Race: Hispanic ^b	0.11	0.10	0.280		-0.09	0.30
Race: Other ^{b,c}	0.30	0.11	0.006	**	0.09	0.51

Parent Education: High School ^d	0.46	0.05	0.000	***	0.35	0.56
Parent Education: Some College ^d	0.26	0.05	0.000	***	0.16	0.36
Gender: Female ^e	0.11	0.04	0.007	**	0.03	0.19
Proportion of Households under Poverty	0.73	0.23	0.002	**	0.28	1.17
No. of Household Members	0.01	0.02	0.406		-0.02	0.05
Caregiver Smokes: Yes ^f	0.18	0.05	0.001	***	0.08	0.28
Epigenetic Assay: Batch 1 ^g	0.02	0.12	0.855		-0.22	0.27
Epigenetic Assay: Batch 2 ^g	0.09	0.12	0.465		-0.15	0.32
CD4T	-1.30	1.39	0.352		-4.06	1.46
CD8T	-1.85	1.32	0.162		-4.46	0.76
Bcell	3.78	1.55	0.016	*	0.71	6.84
NK	-1.98	1.50	0.190		-4.96	0.99
Mono	0.98	1.50	0.514		-1.99	3.96
Gran	2.40	1.34	0.075		-0.25	5.06

Note: a = No Loss (reference) b = White (reference); c = Asian, Native American, Pacific Islander, Other (other race or multi-racial); d = College or Higher reference; e = Male (reference); f = No (reference); g = Batch 3 (reference)

* $p \leq 0.05$; ** $p \leq 0.01$; *** $p \leq 0.001$

NK - Natural Killer; Mono - Monocytes; Gran - Granulocytes

eTable 4. Parental Loss in Childhood and in Adulthood and Biological Aging (*n* = 3,963)

Horvath						
	b	se	p		95% CI (Lower Limit)	95% CI (Upper Limit)
Parental Loss in Childhood: Yes ^a	-0.05	0.08	0.508		-0.21	0.11
Parental Loss in Adulthood: Yes ^a	0.02	0.05	0.658		-0.08	0.12
Age	-0.02	0.01	0.133		-0.04	0.01
Race: Black ^b	0.00	0.08	0.999		-0.16	0.16
Race: Hispanic ^b	-0.18	0.10	0.077		-0.39	0.02
Race: Other ^{b,c}	0.02	0.08	0.794		-0.15	0.19
Parent Education: High School ^d	0.15	0.06	0.016	*	0.03	0.27
Parent Education: Some College ^d	0.06	0.05	0.214		-0.04	0.16
Gender: Female ^e	-0.34	0.05	0.000	***	-0.43	-0.25
Proportion of Households under Poverty	0.07	0.19	0.724		-0.31	0.44
No. of Household Members	0.01	0.02	0.701		-0.03	0.05
Caregiver Smokes: Yes ^f	-0.08	0.06	0.143		-0.19	0.03
Epigenetic Assay: Batch 1 ^g	0.27	0.20	0.193		-0.14	0.67
Epigenetic Assay: Batch 2 ^g	0.40	0.20	0.051		0.00	0.80
CD4T	-0.89	1.40	0.526		-3.68	1.89
CD8T	3.67	1.45	0.013	*	0.80	6.55
Bcell	0.37	1.37	0.787		-2.34	3.08
NK	3.16	1.64	0.056		-0.09	6.40
Mono	-0.94	1.74	0.590		-4.39	2.51
Gran	1.44	1.33	0.283		-1.20	4.08
PhenoAge						
	b	se	p		95% CI (Lower Limit)	95% CI (Upper Limit)
Parental Loss in Childhood: Yes ^a	0.10	0.08	0.182		-0.05	0.25
Parental Loss in Adulthood: Yes ^a	0.10	0.05	0.043	*	0.00	0.19
Age	-0.02	0.01	0.157		-0.04	0.01
Race: Black ^b	0.03	0.08	0.662		-0.12	0.18
Race: Hispanic ^b	0.04	0.09	0.678		-0.14	0.22
Race: Other ^{b,c}	0.06	0.11	0.599		-0.15	0.26
Parent Education: High School ^d	0.24	0.05	0.000	***	0.14	0.34
Parent Education: Some College ^d	0.16	0.05	0.004	**	0.05	0.26
Gender: Female ^e	0.10	0.04	0.017	*	0.02	0.18
Proportion of Households under Poverty	0.26	0.23	0.252		-0.19	0.71
No. of Household Members	-0.02	0.02	0.271		-0.06	0.02
Caregiver Smokes: Yes ^f	0.07	0.05	0.136		-0.02	0.17
Epigenetic Assay: Batch 1 ^g	-0.26	0.13	0.052		-0.53	0.00

Epigenetic Assay: Batch 2 ^g	-0.24	0.14	0.085		-0.51	0.03
CD4T	1.04	1.38	0.452		-1.69	3.78
CD8T	1.17	1.34	0.385		-1.49	3.83
Bcell	1.15	1.62	0.481		-2.07	4.36
NK	6.06	1.58	0.000	***	2.93	9.18
Mono	6.91	1.77	0.000	***	3.40	10.41
Gran	5.91	1.34	0.000	***	3.25	8.56

GrimAge

	b	se	p		95% CI (Lower Limit)	95% CI (Upper Limit)
Parental Loss in Childhood: Yes ^a	0.12	0.10	0.196		-0.07	0.31
Parental Loss in Adulthood: Yes ^a	0.15	0.05	0.003	**	0.05	0.25
Age	-0.05	0.01	0.000	***	-0.07	-0.03
Race: Black ^b	0.31	0.07	0.000	***	0.17	0.44
Race: Hispanic ^b	-0.34	0.08	0.000	***	-0.49	-0.18
Race: Other ^{b,c}	0.03	0.10	0.775		-0.16	0.22
Parent Education: High School ^d	0.38	0.06	0.000	***	0.27	0.50
Parent Education: Some College ^d	0.27	0.05	0.000	***	0.16	0.37
Gender: Female ^e	-0.50	0.04	0.000	***	-0.58	-0.42
Proportion of Households under Poverty	0.62	0.25	0.014	*	0.13	1.11
No. of Household Members	0.03	0.02	0.204		-0.01	0.07
Caregiver Smokes: Yes ^f	0.42	0.06	0.000	***	0.31	0.53
Epigenetic Assay: Batch 1 ^g	-0.17	0.27	0.530		-0.71	0.37
Epigenetic Assay: Batch 2 ^g	0.22	0.27	0.414		-0.31	0.74
CD4T	1.77	1.19	0.138		-0.58	4.12
CD8T	1.03	1.17	0.382		-1.29	3.35
Bcell	0.66	1.43	0.643		-2.16	3.49
NK	-0.83	1.35	0.539		-3.51	1.84
Mono	1.84	1.42	0.196		-0.96	4.64
Gran	3.72	1.13	0.001	**	1.48	5.96

DunedinPACE

	b	se	p		95% CI (Lower Limit)	95% CI (Upper Limit)
Parental Loss in Childhood: Yes ^a	0.10	0.09	0.280		-0.08	0.27
Parental Loss in Adulthood: Yes ^a	0.16	0.04	0.000	***	0.07	0.25
Age	0.01	0.01	0.210		-0.01	0.04
Race: Black ^b	0.48	0.07	0.000	***	0.34	0.62
Race: Hispanic ^b	0.11	0.10	0.295		-0.09	0.30
Race: Other ^{b,c}	0.29	0.10	0.006	**	0.09	0.50
Parent Education: High School ^d	0.46	0.05	0.000	***	0.35	0.56
Parent Education: Some College ^d	0.26	0.05	0.000	***	0.16	0.36

Gender: Female ^e	0.11	0.04	0.007	**	0.03	0.19
Proportion of Households under Poverty	0.74	0.23	0.002	**	0.29	1.18
No. of Household Members	0.02	0.02	0.380		-0.02	0.05
Caregiver Smokes: Yes ^f	0.18	0.05	0.001	***	0.08	0.28
Epigenetic Assay: Batch 1 ^g	0.01	0.12	0.909		-0.23	0.25
Epigenetic Assay: Batch 2 ^g	0.08	0.12	0.506		-0.15	0.31
CD4T	-1.30	1.39	0.353		-4.05	1.46
CD8T	-1.83	1.31	0.164		-4.42	0.76
Bcell	3.81	1.54	0.015	*	0.75	6.87
NK	-1.99	1.50	0.188		-4.96	0.98
Mono	0.98	1.50	0.515		-1.99	3.95
Gran	2.41	1.34	0.074		-0.23	5.06

Note: a = No Loss (reference) b = White (reference); Asian, Native American, Pacific Islander, Other (other race or multi-racial); d = College or Higher reference; e = Male (reference); f = No (reference); g = Batch 3 (reference)

* $p \leq 0.05$; ** $p \leq 0.01$; *** $p \leq 0.001$

NK - Natural Killer; Mono - Monocytes; Gran - Granulocytes

eTable 5. Count of Losses and Biological Aging ($n = 3,921$)

Horvath						
	b	se	p	95% CI (Lower Limit)	95% CI (Upper Limit)	
One Loss: Yes ^a	-0.03	0.05	0.562	-0.14	0.08	
Two or More Losses: Yes ^a	-0.12	0.09	0.215	-0.30	0.07	
Age	-0.02	0.01	0.212	-0.04	0.01	
Race: Black ^b	-0.02	0.08	0.835	-0.17	0.14	
Race: Hispanic ^b	-0.16	0.10	0.106	-0.36	0.03	
Race: Other ^{b,c}	0.05	0.10	0.607	-0.15	0.26	
Parent Education: High School ^d	0.13	0.06	0.045	*	0.00	0.25
Parent Education: Some College ^d	0.02	0.05	0.692	-0.08	0.11	
Gender: Female ^e	-0.37	0.04	0.000	***	-0.45	-0.29
Proportion of Households under Poverty	0.12	0.20	0.543	-0.27	0.52	
No. of Household Members	0.01	0.02	0.468	-0.03	0.06	
Caregiver Smokes: Yes ^f	-0.07	0.06	0.241	-0.19	0.05	
Epigenetic Assay: Batch 1 ^g	0.33	0.24	0.160	-0.13	0.80	
Epigenetic Assay: Batch 2 ^g	0.40	0.23	0.084	-0.06	0.86	
Time Since Loss	0.00	0.00	0.480	-0.01	0.01	
PhenoAge						
	b	se	p	95% CI (Lower Limit)	95% CI (Upper Limit)	
One Loss: Yes ^a	0.04	0.06	0.529	-0.09	0.17	
Two or More Losses: Yes ^a	0.09	0.08	0.274	-0.07	0.25	
Age	-0.01	0.01	0.505	-0.03	0.02	
Race: Black ^b	-0.20	0.07	0.006	**	-0.34	-0.06
Race: Hispanic ^b	-0.04	0.10	0.684	-0.24	0.16	
Race: Other ^{b,c}	-0.05	0.13	0.689	-0.32	0.21	
Parent Education: High School ^d	0.27	0.05	0.000	***	0.16	0.37
Parent Education: Some College ^d	0.17	0.06	0.006	**	0.05	0.29
Gender: Female ^e	0.10	0.04	0.010	*	0.03	0.18
Proportion of Households under Poverty	0.17	0.24	0.462	-0.29	0.64	
No. of Household Members	-0.01	0.02	0.612	-0.05	0.03	
Caregiver Smokes: Yes ^f	0.08	0.05	0.138	-0.02	0.18	
Epigenetic Assay: Batch 1 ^g	-0.15	0.15	0.338	-0.45	0.15	
Epigenetic Assay: Batch 2 ^g	-0.16	0.16	0.322	-0.46	0.15	
Time Since Loss	0.01	0.00	0.176	0.00	0.01	
GrimAge						

	b	se	p		95% CI (Lower Limit)	95% CI (Upper Limit)
One Loss: Yes ^a	0.17	0.07	0.011	*	0.04	0.31
Two or More Losses: Yes ^a	0.24	0.09	0.011	*	0.06	0.43
Age	-0.05	0.01	0.000	***	-0.08	-0.03
Race: Black ^b	0.12	0.06	0.075		-0.01	0.24
Race: Hispanic ^b	-0.42	0.09	0.000	***	-0.59	-0.24
Race: Other ^{b,c}	-0.06	0.10	0.503		-0.25	0.12
Parent Education: High School ^d	0.41	0.06	0.000	***	0.29	0.53
Parent Education: Some College ^d	0.29	0.05	0.000	***	0.18	0.40
Gender: Female ^e	-0.39	0.04	0.000	***	-0.47	-0.30
Proportion of Households under Poverty	0.46	0.25	0.063		-0.02	0.95
No. of Household Members	0.02	0.02	0.294		-0.02	0.07
Caregiver Smokes: Yes ^f	0.44	0.06	0.000	***	0.33	0.55
Epigenetic Assay: Batch 1 ^g	-0.17	0.28	0.556		-0.72	0.39
Epigenetic Assay: Batch 2 ^g	0.21	0.28	0.456		-0.34	0.75
Time Since Loss	0.00	0.00	0.873		-0.01	0.01

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	b	se	p		95% CI (Lower Limit)	95% CI (Upper Limit)
One Loss: Yes ^a	0.17	0.06	0.010	*	0.04	0.30
Two or More Losses: Yes ^a	0.21	0.07	0.006	**	0.06	0.35
Age	0.02	0.01	0.144		-0.01	0.04
Race: Black ^b	0.35	0.06	0.000	***	0.22	0.48
Race: Hispanic ^b	0.06	0.11	0.546		-0.15	0.27
Race: Other ^{b,c}	0.25	0.12	0.033	*	0.02	0.48
Parent Education: High School ^d	0.51	0.05	0.000	***	0.40	0.62
Parent Education: Some College ^d	0.29	0.05	0.000	***	0.19	0.40
Gender: Female ^e	0.17	0.04	0.000	***	0.09	0.26
Proportion of Households under Poverty	0.63	0.23	0.007	**	0.18	1.09
No. of Household Members	0.02	0.02	0.404		-0.02	0.05
Caregiver Smokes: Yes ^f	0.19	0.06	0.002	**	0.07	0.30
Epigenetic Assay: Batch 1 ^g	0.06	0.12	0.613		-0.18	0.31
Epigenetic Assay: Batch 2 ^g	0.14	0.12	0.244		-0.10	0.38
Time Since Loss	0.00	0.00	0.956		-0.01	0.01

Note: a = No Loss (reference) b = White (reference); c = Asian, Native American, Pacific Islander, Other (other race or multi-racial); d = College or Higher reference; e = Male (reference); f = No (reference); g = Batch 3 (reference)

* $p \leq 0.05$; ** $p \leq 0.01$; *** $p \leq 0.001$

eTable 6. Parental Loss at Any Time Period (Childhood to Adulthood) and Biological Aging (*n* = 3,921)

Horvath						
	b	se	p	95% CI (Lower Limit)	95% CI (Upper Limit)	
Parental Loss: Yes ^a	-0.01	0.06	0.930	-0.13	0.12	
Age	-0.02	0.01	0.177	-0.04	0.01	
Race: Black ^b	-0.02	0.08	0.773	-0.18	0.13	
Race: Hispanic ^b	-0.16	0.10	0.116	-0.35	0.04	
Race: Other ^{b,c}	0.05	0.10	0.605	-0.15	0.26	
Parent Education: High School ^d	0.12	0.06	0.055	0.00	0.24	
Parent Education: Some College ^d	0.02	0.05	0.747	-0.08	0.11	
Gender: Female ^e	-0.37	0.04	0.000	***	-0.45	-0.29
Proportion of Households under Poverty	0.11	0.20	0.592	-0.29	0.50	
No. of Household Members	0.01	0.02	0.476	-0.03	0.06	
Caregiver Smokes: Yes ^f	-0.07	0.06	0.214	-0.19	0.04	
Epigenetic Assay: Batch 1 ^g	0.33	0.24	0.167	-0.14	0.79	
Epigenetic Assay: Batch 2 ^g	0.40	0.23	0.089	-0.06	0.85	
Time Since Loss	0.00	0.00	0.919	-0.01	0.01	
PhenoAge						
	b	se	p	95% CI (Lower Limit)	95% CI (Upper Limit)	
Parental Loss: Yes ^a	0.06	0.07	0.349	-0.07	0.20	
Age	-0.01	0.01	0.519	-0.03	0.02	
Race: Black ^b	-0.20	0.07	0.007	**	-0.34	-0.06
Race: Hispanic ^b	-0.04	0.10	0.674	-0.25	0.16	
Race: Other ^{b,c}	-0.05	0.14	0.687	-0.32	0.21	
Parent Education: High School ^d	0.27	0.05	0.000	***	0.16	0.38
Parent Education: Some College ^d	0.17	0.06	0.005	**	0.05	0.29
Gender: Female ^e	0.10	0.04	0.011	*	0.02	0.19
Proportion of Households under Poverty	0.18	0.24	0.451	-0.29	0.65	
No. of Household Members	-0.01	0.02	0.644	-0.05	0.03	
Caregiver Smokes: Yes ^f	0.08	0.05	0.140	-0.03	0.18	
Epigenetic Assay: Batch 1 ^g	-0.15	0.15	0.332	-0.45	0.15	
Epigenetic Assay: Batch 2 ^g	-0.16	0.16	0.312	-0.47	0.15	
Time Since Loss	0.00	0.00	0.264	0.00	0.01	
GrimAge						

	b	se	p		95% CI (Lower Limit)	95% CI (Upper Limit)
Parental Loss: Yes ^a	0.20	0.07	0.006	**	0.06	0.34
Age	-0.05	0.01	0.000	***	-0.08	-0.03
Race: Black ^b	0.12	0.06	0.057		0.00	0.25
Race: Hispanic ^b	-0.41	0.09	0.000	***	-0.60	-0.23
Race: Other ^{b,c}	-0.06	0.10	0.513		-0.25	0.13
Parent Education: High School ^d	0.42	0.06	0.000	***	0.30	0.55
Parent Education: Some College ^d	0.29	0.05	0.000	***	0.19	0.40
Gender: Female ^e	-0.39	0.04	0.000	***	-0.47	-0.30
Proportion of Households under Poverty	0.47	0.25	0.060		-0.02	0.96
No. of Household Members	0.03	0.02	0.251		-0.02	0.07
Caregiver Smokes: Yes ^f	0.44	0.06	0.000	***	0.33	0.55
Epigenetic Assay: Batch 1 ^g	-0.17	0.28	0.533		-0.72	0.38
Epigenetic Assay: Batch 2 ^g	0.20	0.27	0.472		-0.34	0.74
Time Since Loss	0.00	0.00	0.960		-0.01	0.01

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	b	se	p		95% CI (Lower Limit)	95% CI (Upper Limit)
Parental Loss: Yes ^a	0.21	0.07	0.003	**	0.07	0.35
Age	0.02	0.01	0.134		-0.01	0.04
Race: Black ^b	0.35	0.06	0.000	***	0.22	0.48
Race: Hispanic ^b	0.07	0.11	0.553		-0.15	0.29
Race: Other ^{b,c}	0.25	0.12	0.032	*	0.02	0.49
Parent Education: High School ^d	0.52	0.06	0.000	***	0.41	0.63
Parent Education: Some College ^d	0.30	0.05	0.000	***	0.19	0.40
Gender: Female ^e	0.17	0.04	0.000	***	0.09	0.26
Proportion of Households under Poverty	0.64	0.23	0.007	**	0.18	1.09
No. of Household Members	0.02	0.02	0.341		-0.02	0.06
Caregiver Smokes: Yes ^f	0.19	0.06	0.002	**	0.07	0.30
Epigenetic Assay: Batch 1 ^g	0.05	0.12	0.673		-0.19	0.30
Epigenetic Assay: Batch 2 ^g	0.13	0.12	0.287		-0.11	0.36
Time Since Loss	0.00	0.00	0.681		-0.01	0.01

Note: a = No Loss (reference) b = White (reference); c = Asian, Native American, Pacific Islander, Other (other race or multi-racial); d = College or Higher reference; e = Male (reference); f = No (reference); g = Batch 3 (reference)

* $p \leq 0.05$; ** $p \leq 0.01$; *** $p \leq 0.001$

eTable 7. Any Loss in Childhood and in Adulthood and Biological Aging (*n* = 3,921)

Horvath						
	b	se	p	95% CI (Lower Limit)	95% CI (Upper Limit)	
Any Loss in Childhood: Yes ^a	-0.17	0.12	0.160	-0.40	0.07	
Any Loss in Adulthood: Yes ^a	-0.04	0.05	0.445	-0.15	0.07	
Age	-0.02	0.01	0.161	-0.04	0.01	
Race: Black ^b	-0.02	0.08	0.791	-0.18	0.13	
Race: Hispanic ^b	-0.16	0.10	0.114	-0.35	0.04	
Race: Other ^{b,c}	0.06	0.10	0.591	-0.15	0.26	
Parent Education: High School ^d	0.12	0.06	0.050	*	0.00	0.25
Parent Education: Some College ^d	0.01	0.05	0.758	-0.08	0.11	
Gender: Female ^e	-0.37	0.04	0.000	***	-0.45	-0.29
Proportion of Households under Poverty	0.12	0.20	0.542	-0.27	0.51	
No. of Household Members	0.01	0.02	0.478	-0.03	0.06	
Caregiver Smokes: Yes ^f	-0.07	0.06	0.246	-0.19	0.05	
Epigenetic Assay: Batch 1 ^g	0.33	0.24	0.170	-0.14	0.79	
Epigenetic Assay: Batch 2 ^g	0.40	0.23	0.091	-0.06	0.86	
Time Since Loss	0.01	0.00	0.242	0.00	0.02	
PhenoAge						
	b	se	p	95% CI (Lower Limit)	95% CI (Upper Limit)	
Any Loss in Childhood: Yes ^a	-0.09	0.12	0.428	-0.32	0.14	
Any Loss in Adulthood: Yes ^a	0.03	0.06	0.604	-0.08	0.14	
Age	-0.01	0.01	0.484	-0.03	0.02	
Race: Black ^b	-0.20	0.07	0.007	**	-0.34	-0.06
Race: Hispanic ^b	-0.04	0.10	0.679	-0.25	0.16	
Race: Other ^{b,c}	-0.05	0.14	0.697	-0.32	0.22	
Parent Education: High School ^d	0.27	0.05	0.000	***	0.16	0.38
Parent Education: Some College ^d	0.17	0.06	0.006	**	0.05	0.29
Gender: Female ^e	0.11	0.04	0.010	*	0.03	0.18
Proportion of Households under Poverty	0.18	0.24	0.440	-0.28	0.65	
No. of Household Members	-0.01	0.02	0.638	-0.05	0.03	
Caregiver Smokes: Yes ^f	0.08	0.05	0.124	-0.02	0.18	
Epigenetic Assay: Batch 1 ^g	-0.15	0.15	0.336	-0.45	0.15	
Epigenetic Assay: Batch 2 ^g	-0.16	0.16	0.319	-0.47	0.15	
Time Since Loss	0.01	0.00	0.043	*	0.00	0.02
GrimAge						

	b	se	p		95% CI (Lower Limit)	95% CI (Upper Limit)
Any Loss in Childhood: Yes ^a	0.06	0.11	0.554		-0.15	0.27
Any Loss in Adulthood: Yes ^a	0.16	0.06	0.008	**	0.04	0.28
Age	-0.05	0.01	0.000	***	-0.08	-0.03
Race: Black ^b	0.12	0.06	0.056		0.00	0.25
Race: Hispanic ^b	-0.41	0.09	0.000	***	-0.59	-0.23
Race: Other ^{b,c}	-0.06	0.10	0.521		-0.25	0.13
Parent Education: High School ^d	0.42	0.06	0.000	***	0.30	0.54
Parent Education: Some College ^d	0.29	0.05	0.000	***	0.19	0.40
Gender: Female ^e	-0.39	0.04	0.000	***	-0.47	-0.30
Proportion of Households under Poverty	0.46	0.25	0.065		-0.03	0.95
No. of Household Members	0.02	0.02	0.259		-0.02	0.07
Caregiver Smokes: Yes ^f	0.44	0.06	0.000	***	0.33	0.55
Epigenetic Assay: Batch 1 ^g	-0.17	0.28	0.552		-0.72	0.39
Epigenetic Assay: Batch 2 ^g	0.21	0.28	0.458		-0.34	0.75
Time Since Loss	0.00	0.00	0.439		-0.01	0.01

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	b	se	p		95% CI (Lower Limit)	95% CI (Upper Limit)
Any Loss in Childhood: Yes ^a	0.00	0.10	0.995		-0.20	0.20
Any Loss in Adulthood: Yes ^a	0.13	0.06	0.027	*	0.01	0.24
Age	0.02	0.01	0.147		-0.01	0.04
Race: Black ^b	0.35	0.06	0.000	***	0.23	0.48
Race: Hispanic ^b	0.07	0.11	0.529		-0.15	0.29
Race: Other ^{b,c}	0.26	0.12	0.033	*	0.02	0.49
Parent Education: High School ^d	0.52	0.06	0.000	***	0.41	0.63
Parent Education: Some College ^d	0.30	0.05	0.000	***	0.19	0.40
Gender: Female ^e	0.17	0.04	0.000	***	0.09	0.26
Proportion of Households under Poverty	0.63	0.23	0.007	**	0.18	1.09
No. of Household Members	0.02	0.02	0.363		-0.02	0.05
Caregiver Smokes: Yes ^f	0.19	0.06	0.001	**	0.07	0.31
Epigenetic Assay: Batch 1 ^g	0.06	0.12	0.622		-0.18	0.31
Epigenetic Assay: Batch 2 ^g	0.14	0.12	0.248		-0.10	0.37
Time Since Loss	0.00	0.00	0.235		0.00	0.01

Note: a = No Loss (reference) b = White (reference); c = Asian, Native American, Pacific Islander, Other (other race or multi-racial); d = College or Higher reference; e = Male (reference); f = No (reference); g = Batch 3 (reference)

* $p \leq 0.05$; ** $p \leq 0.01$; *** $p \leq 0.001$

eTable 8. Parental Loss in Childhood and in Adulthood and Biological Aging (*n* = 3,921)

Horvath					
	b	se	p	95% CI (Lower Limit)	95% CI (Upper Limit)
Parental Loss in Childhood: Yes ^a	-0.21	0.17	0.224	-0.54	0.13
Parental Loss in Adulthood: Yes ^a	-0.02	0.06	0.762	-0.14	0.10
Age	-0.02	0.01	0.142	-0.04	0.01
Race: Black ^b	-0.03	0.08	0.742	-0.18	0.13
Race: Hispanic ^b	-0.16	0.10	0.120	-0.35	0.04
Race: Other ^{b,c}	0.06	0.10	0.583	-0.15	0.26
Parent Education: High School ^d	0.12	0.06	0.053	0.00	0.24
Parent Education: Some College ^d	0.01	0.05	0.781	-0.08	0.11
Gender: Female ^e	-0.37	0.04	0.000	***	-0.45
Proportion of Households under Poverty	0.10	0.20	0.609	-0.29	0.50
No. of Household Members	0.01	0.02	0.487	-0.03	0.05
Caregiver Smokes: Yes ^f	-0.07	0.06	0.219	-0.19	0.04
Epigenetic Assay: Batch 1 ^g	0.33	0.24	0.169	-0.14	0.79
Epigenetic Assay: Batch 2 ^g	0.39	0.23	0.090	-0.06	0.85
Time Since Loss	0.01	0.01	0.345	-0.01	0.02
PhenoAge					
	b	se	p	95% CI (Lower Limit)	95% CI (Upper Limit)
Parental Loss in Childhood: Yes ^a	-0.18	0.15	0.249	-0.48	0.12
Parental Loss in Adulthood: Yes ^a	0.03	0.07	0.661	-0.10	0.16
Age	-0.01	0.01	0.454	-0.03	0.02
Race: Black ^b	-0.20	0.07	0.006	**	-0.34
Race: Hispanic ^b	-0.04	0.10	0.687	-0.25	0.16
Race: Other ^{b,c}	-0.05	0.13	0.705	-0.32	0.22
Parent Education: High School ^d	0.27	0.05	0.000	***	0.16
Parent Education: Some College ^d	0.17	0.06	0.006	**	0.05
Gender: Female ^e	0.10	0.04	0.011	*	0.02
Proportion of Households under Poverty	0.18	0.24	0.461	-0.29	0.64
No. of Household Members	-0.01	0.02	0.621	-0.05	0.03
Caregiver Smokes: Yes ^f	0.08	0.05	0.126	-0.02	0.18
Epigenetic Assay: Batch 1 ^g	-0.15	0.15	0.333	-0.45	0.15
Epigenetic Assay: Batch 2 ^g	-0.16	0.16	0.314	-0.47	0.15
Time Since Loss	0.01	0.01	0.051	0.00	0.02
GrimAge					

	b	se	p		95% CI (Lower Limit)	95% CI (Upper Limit)
Parental Loss in Childhood: Yes ^a	0.03	0.13	0.809		-0.22	0.28
Parental Loss in Adulthood: Yes ^a	0.15	0.06	0.011	*	0.04	0.27
Age	-0.05	0.01	0.000	***	-0.08	-0.03
Race: Black ^b	0.13	0.06	0.053	.	0.00	0.25
Race: Hispanic ^b	-0.41	0.09	0.000	***	-0.59	-0.23
Race: Other ^{b,c}	-0.06	0.10	0.513		-0.25	0.13
Parent Education: High School ^d	0.42	0.06	0.000	***	0.30	0.55
Parent Education: Some College ^d	0.29	0.05	0.000	***	0.19	0.40
Gender: Female ^e	-0.39	0.04	0.000	***	-0.47	-0.30
Proportion of Households under Poverty	0.47	0.25	0.062		-0.02	0.96
No. of Household Members	0.02	0.02	0.255		-0.02	0.07
Caregiver Smokes: Yes ^f	0.44	0.06	0.000	***	0.33	0.55
Epigenetic Assay: Batch 1 ^g	-0.17	0.28	0.536		-0.72	0.38
Epigenetic Assay: Batch 2 ^g	0.20	0.27	0.466		-0.34	0.74
Time Since Loss	0.00	0.00	0.377		-0.01	0.01

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	b	se	p		95% CI (Lower Limit)	95% CI (Upper Limit)
Parental Loss in Childhood: Yes ^a	0.00	0.14	0.989		-0.27	0.27
Parental Loss in Adulthood: Yes ^a	0.15	0.06	0.025	*	0.02	0.28
Age	0.02	0.01	0.151		-0.01	0.04
Race: Black ^b	0.36	0.06	0.000	***	0.23	0.48
Race: Hispanic ^b	0.07	0.11	0.541		-0.15	0.29
Race: Other ^{b,c}	0.25	0.12	0.032	*	0.02	0.49
Parent Education: High School ^d	0.52	0.06	0.000	***	0.41	0.63
Parent Education: Some College ^d	0.30	0.05	0.000	***	0.19	0.40
Gender: Female ^e	0.17	0.04	0.000	***	0.09	0.26
Proportion of Households under Poverty	0.64	0.23	0.006	**	0.18	1.09
No. of Household Members	0.02	0.02	0.356		-0.02	0.06
Caregiver Smokes: Yes ^f	0.19	0.06	0.001	**	0.07	0.30
Epigenetic Assay: Batch 1 ^g	0.06	0.12	0.656		-0.19	0.30
Epigenetic Assay: Batch 2 ^g	0.13	0.12	0.270		-0.10	0.37
Time Since Loss	0.00	0.01	0.435		-0.01	0.01

Note: a = No Loss (reference) b = White (reference); c = Asian, Native American, Pacific Islander, Other (other race or multi-racial); d = College or Higher reference; e = Male (reference); f = No (reference); g = Batch 3 (reference)

* $p \leq 0.05$; ** $p \leq 0.01$; *** $p \leq 0.001$

eTable 9. Number of Losses and Biological Aging (*n* = 3,963)

Horvath						
	b	se	p	95% CI (Lower Limit)	95% CI (Upper Limit)	
One Loss: Yes ^a	-0.01	0.05	0.863	-0.10	0.08	
Two or More Losses: Yes ^a	-0.08	0.07	0.252	-0.23	0.06	
Age	-0.01	0.01	0.216	-0.04	0.01	
Race: Black ^b	-0.02	0.08	0.753	-0.18	0.13	
Race: Hispanic ^b	-0.16	0.10	0.098	-0.36	0.03	
Race: Other ^{b, c}	0.09	0.09	0.274	-0.07	0.26	
Parent Education: High School ^d	0.12	0.06	0.044	*	0.00	0.25
Parent Education: Some College ^d	0.03	0.05	0.597	-0.07	0.12	
Gender: Female ^e	-0.37	0.04	0.000	***	-0.45	-0.28
Proportion of Households under Poverty	0.11	0.20	0.588	-0.28	0.50	
No. of Household Members	0.02	0.02	0.435	-0.02	0.06	
Caregiver Smokes: Yes ^f	-0.07	0.06	0.223	-0.19	0.04	
Epigenetic Assay: Batch 1 ^g	0.34	0.23	0.147	-0.12	0.80	
Epigenetic Assay: Batch 2 ^g	0.41	0.23	0.078	-0.05	0.86	
PhenoAge						
	b	se	p	95% CI (Lower Limit)	95% CI (Upper Limit)	
One Loss: Yes ^a	0.09	0.05	0.099	-0.02	0.19	
Two or More Losses: Yes ^a	0.15	0.07	0.028	*	0.02	0.28
Age	-0.01	0.01	0.493	-0.03	0.02	
Race: Black ^b	-0.19	0.07	0.010	*	-0.33	-0.05
Race: Hispanic ^b	-0.05	0.10	0.637	-0.24	0.15	
Race: Other ^{b, c}	-0.01	0.13	0.957	-0.27	0.25	
Parent Education: High School ^d	0.26	0.05	0.000	***	0.16	0.37
Parent Education: Some College ^d	0.16	0.06	0.009	**	0.04	0.28
Gender: Female ^e	0.10	0.04	0.011	*	0.02	0.18
Proportion of Households under Poverty	0.14	0.24	0.562	-0.33	0.60	
No. of Household Members	-0.01	0.02	0.565	-0.06	0.03	
Caregiver Smokes: Yes ^f	0.08	0.05	0.114	-0.02	0.18	
Epigenetic Assay: Batch 1 ^g	-0.14	0.15	0.345	-0.44	0.16	
Epigenetic Assay: Batch 2 ^g	-0.15	0.16	0.334	-0.46	0.16	
GrimAge						
	b	se	p	95% CI (Lower Limit)	95% CI (Upper Limit)	

One Loss: Yes ^a	0.19	0.05	0.000	***	0.09	0.29
Two or More Losses: Yes ^a	0.27	0.09	0.003	**	0.09	0.45
Age	-0.05	0.01	0.000	***	-0.07	-0.03
Race: Black ^b	0.12	0.07	0.080		-0.01	0.24
Race: Hispanic ^b	-0.42	0.09	0.000	***	-0.59	-0.24
Race: Other ^{b, c}	-0.02	0.10	0.840		-0.23	0.18
Parent Education: High School ^d	0.41	0.06	0.000	***	0.29	0.53
Parent Education: Some College ^d	0.29	0.05	0.000	***	0.18	0.39
Gender: Female ^e	-0.40	0.04	0.000	***	-0.48	-0.31
Proportion of Households under Poverty	0.47	0.24	0.056		-0.01	0.95
No. of Household Members	0.02	0.02	0.336		-0.02	0.06
Caregiver Smokes: Yes ^f	0.46	0.06	0.000	***	0.34	0.57
Epigenetic Assay: Batch 1 ^g	-0.15	0.29	0.597		-0.72	0.41
Epigenetic Assay: Batch 2 ^g	0.21	0.28	0.446		-0.34	0.76

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	b	se	p		95% CI (Lower Limit)	95% CI (Upper Limit)
One Loss: Yes ^a	0.17	0.05	0.000	***	0.08	0.27
Two or More Losses: Yes ^a	0.22	0.06	0.000	***	0.10	0.34
Age	0.02	0.01	0.126		0.00	0.04
Race: Black ^b	0.35	0.07	0.000	***	0.22	0.47
Race: Hispanic ^b	0.06	0.10	0.540		-0.14	0.27
Race: Other ^{b, c}	0.28	0.11	0.016	*	0.05	0.50
Parent Education: High School ^d	0.50	0.05	0.000	***	0.39	0.61
Parent Education: Some College ^d	0.29	0.05	0.000	***	0.19	0.40
Gender: Female ^e	0.17	0.04	0.000	***	0.09	0.25
Proportion of Households under Poverty	0.64	0.23	0.006	**	0.18	1.09
No. of Household Members	0.02	0.02	0.378		-0.02	0.05
Caregiver Smokes: Yes ^f	0.19	0.06	0.001	**	0.08	0.31
Epigenetic Assay: Batch 1 ^g	0.07	0.12	0.588		-0.18	0.31
Epigenetic Assay: Batch 2 ^g	0.14	0.12	0.234		-0.09	0.38

Note: a = No Loss (reference) b = White (reference); c = Asian, Native American, Pacific Islander, Other (other race or multi-racial); d = College or Higher reference; e = Male (reference); f = No (reference); g = Batch 3 (reference)

* $p \leq 0.05$; ** $p \leq 0.01$; *** $p \leq 0.001$

eTable 10. Parental Loss at Any Time Period (Childhood to Adulthood) and Biological Aging ($n = 3,963$)

Horvath						
	b	se	p		95% CI (Lower Limit)	95% CI (Upper Limit)
Parental Loss: Yes ^a	0.00	0.05	0.982		-0.09	0.09
Age	-0.02	0.01	0.177		-0.04	0.01
Race: Black ^b	-0.03	0.08	0.684		-0.18	0.12
Race: Hispanic ^b	-0.16	0.10	0.108		-0.35	0.04
Race: Other ^{b,c}	0.09	0.08	0.271		-0.07	0.26
Parent Education: High School ^d	0.12	0.06	0.055		0.00	0.24
Parent Education: Some College ^d	0.02	0.05	0.637		-0.07	0.12
Gender: Female ^e	-0.37	0.04	0.000	***	-0.45	-0.28
Proportion of Households under Poverty	0.09	0.20	0.647		-0.30	0.48
No. of Household Members	0.02	0.02	0.427		-0.02	0.06
Caregiver Smokes: Yes ^f	-0.08	0.06	0.198		-0.19	0.04
Epigenetic Assay: Batch 1 ^g	0.33	0.23	0.156		-0.13	0.80
Epigenetic Assay: Batch 2 ^g	0.40	0.23	0.083		-0.05	0.86
PhenoAge						
	b	se	p		95% CI (Lower Limit)	95% CI (Upper Limit)
Parental Loss: Yes ^a	0.12	0.05	0.014	*	0.02	0.21
Age	-0.01	0.01	0.505		-0.03	0.02
Race: Black ^b	-0.19	0.07	0.011	*	-0.33	-0.04
Race: Hispanic ^b	-0.05	0.10	0.630		-0.25	0.15
Race: Other ^{b,c}	-0.01	0.13	0.944		-0.27	0.25
Parent Education: High School ³	0.27	0.05	0.000	***	0.16	0.38
Parent Education: Some College ³	0.16	0.06	0.008	**	0.04	0.28
Gender: Female ⁴	0.10	0.04	0.011	*	0.02	0.18
Proportion of Households under Poverty	0.14	0.24	0.546		-0.33	0.61
No. of Household Members	-0.01	0.02	0.625		-0.05	0.03
Caregiver Smokes: Yes ^f	0.08	0.05	0.118		-0.02	0.19
Epigenetic Assay: Batch 1 ^g	-0.15	0.15	0.328		-0.45	0.15
Epigenetic Assay: Batch 2 ^g	-0.16	0.16	0.312		-0.47	0.15
GrimAge						
	b	se	p		95% CI (Lower Limit)	95% CI (Upper Limit)
Parental Loss: Yes ^a	0.21	0.05	0.000	***	0.12	0.31

Age	-0.05	0.01	0.000	***	-0.07	-0.03
Race: Black ^b	0.12	0.06	0.061		-0.01	0.25
Race: Hispanic ^b	-0.42	0.09	0.000	***	-0.60	-0.24
Race: Other ^{b,c}	-0.02	0.10	0.836		-0.23	0.18
Parent Education: High School ^d	0.42	0.06	0.000	***	0.30	0.54
Parent Education: Some College ^d	0.29	0.05	0.000	***	0.19	0.40
Gender: Female ^e	-0.40	0.04	0.000	***	-0.48	-0.31
Proportion of Households under Poverty	0.48	0.25	0.053		-0.01	0.97
No. of Household Members	0.02	0.02	0.278		-0.02	0.07
Caregiver Smokes: Yes ^f	0.46	0.06	0.000	***	0.34	0.57
Epigenetic Assay: Batch 1 ^g	-0.16	0.28	0.573		-0.72	0.40
Epigenetic Assay: Batch 2 ^g	0.20	0.28	0.466		-0.35	0.75

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	b	se	p		95% CI (Lower Limit)	95% CI (Upper Limit)
Parental Loss: Yes ^a	0.19	0.04	0.000	***	0.11	0.28
Age	0.02	0.01	0.117		0.00	0.04
Race: Black ^b	0.35	0.07	0.000	***	0.22	0.48
Race: Hispanic ^b	0.07	0.11	0.548		-0.15	0.28
Race: Other ^{b,c}	0.27	0.11	0.017	*	0.05	0.50
Parent Education: High School ^d	0.51	0.06	0.000	***	0.40	0.62
Parent Education: Some College ^d	0.29	0.05	0.000	***	0.19	0.40
Gender: Female ^e	0.17	0.04	0.000	***	0.09	0.25
Proportion of Households under Poverty	0.64	0.23	0.006	**	0.19	1.10
No. of Household Members	0.02	0.02	0.313		-0.02	0.06
Caregiver Smokes: Yes ^f	0.19	0.06	0.001	**	0.08	0.31
Epigenetic Assay: Batch 1 ^g	0.06	0.12	0.647		-0.19	0.30
Epigenetic Assay: Batch 2 ^g	0.13	0.12	0.273		-0.10	0.37

Note: a = No Loss (reference) b = White (reference); c = Asian, Native American, Pacific Islander, Other (other race or multi-racial); d = College or Higher reference; e = Male (reference); f = No (reference); g = Batch 3 (reference)

* $p \leq 0.05$; ** $p \leq 0.01$; *** $p \leq 0.001$

eTable 11. Any Loss in Childhood and in Adulthood and Biological Aging ($n = 3,963$)

Horvath						
	b	se	p		95% CI (Lower Limit)	95% CI (Upper Limit)
Any Loss in Childhood: Yes ^a	-0.07	0.08	0.371		-0.22	0.08
Any Loss in Adulthood: Yes ^a	-0.01	0.05	0.883		-0.10	0.09
Age	-0.02	0.01	0.178		-0.04	0.01
Race: Black ^b	-0.03	0.08	0.730		-0.18	0.13
Race: Hispanic ^b	-0.16	0.10	0.107		-0.35	0.03
Race: Other ^{b,c}	0.10	0.09	0.266		-0.07	0.26
Parent Education: High School ^d	0.12	0.06	0.049	*	0.00	0.25
Parent Education: Some College ^d	0.02	0.05	0.645		-0.07	0.12
Gender: Female ^e	-0.36	0.04	0.000	***	-0.45	-0.28
Proportion of Households under Poverty	0.10	0.19	0.616		-0.29	0.48
No. of Household Members	0.02	0.02	0.445		-0.02	0.06
Caregiver Smokes: Yes ^f	-0.07	0.06	0.215		-0.19	0.04
Epigenetic Assay: Batch 1 ^g	0.34	0.23	0.155		-0.13	0.80
Epigenetic Assay: Batch 2 ^g	0.40	0.23	0.083		-0.05	0.86
PhenoAge						
	b	se	p		95% CI (Lower Limit)	95% CI (Upper Limit)
Any Loss in Childhood: Yes ^a	0.07	0.08	0.398		-0.09	0.23
Any Loss in Adulthood: Yes ^a	0.08	0.05	0.081		-0.01	0.18
Age	-0.01	0.01	0.535		-0.03	0.02
Race: Black ^b	-0.18	0.07	0.013	*	-0.32	-0.04
Race: Hispanic ^b	-0.05	0.10	0.647		-0.25	0.16
Race: Other ^{b,c}	0.00	0.13	0.979		-0.27	0.26
Parent Education: High School ^d	0.27	0.05	0.000	***	0.16	0.38
Parent Education: Some College ^d	0.16	0.06	0.008	**	0.04	0.28
Gender: Female ^e	0.10	0.04	0.012	*	0.02	0.18
Proportion of Households under Poverty	0.14	0.24	0.549		-0.33	0.61
No. of Household Members	-0.01	0.02	0.582		-0.05	0.03
Caregiver Smokes: Yes ^f	0.08	0.05	0.109		-0.02	0.19
Epigenetic Assay: Batch 1 ^g	-0.14	0.15	0.363		-0.44	0.16
Epigenetic Assay: Batch 2 ^g	-0.15	0.16	0.344		-0.46	0.16
GrimAge						
	b	se	p		95% CI (Lower Limit)	95% CI (Upper Limit)

Any Loss in Childhood: Yes ^a	0.11	0.09	0.207		-0.06	0.28
Any Loss in Adulthood: Yes ^a	0.16	0.05	0.001	**	0.07	0.26
Age	-0.05	0.01	0.000	***	-0.07	-0.03
Race: Black ^b	0.13	0.07	0.048	*	0.00	0.26
Race: Hispanic ^b	-0.41	0.09	0.000	***	-0.59	-0.24
Race: Other ^{b,c}	-0.01	0.11	0.920		-0.22	0.20
Parent Education: High School ^d	0.42	0.06	0.000	***	0.30	0.54
Parent Education: Some College ^d	0.29	0.05	0.000	***	0.19	0.40
Gender: Female ^e	-0.40	0.04	0.000	***	-0.48	-0.32
Proportion of Households under Poverty	0.48	0.24	0.053		-0.01	0.96
No. of Household Members	0.02	0.02	0.324		-0.02	0.06
Caregiver Smokes: Yes ^f	0.46	0.06	0.000	***	0.34	0.58
Epigenetic Assay: Batch 1 ^g	-0.14	0.29	0.622		-0.71	0.43
Epigenetic Assay: Batch 2 ^g	0.22	0.28	0.433		-0.33	0.77

DunedinPACE

	b	se	p		95% CI (Lower Limit)	95% CI (Upper Limit)
Any Loss in Childhood: Yes ^a	0.08	0.08	0.344		-0.08	0.24
Any Loss in Adulthood: Yes ^a	0.15	0.05	0.002	**	0.06	0.24
Age	0.02	0.01	0.108		0.00	0.04
Race: Black ^b	0.36	0.06	0.000	***	0.23	0.49
Race: Hispanic ^b	0.07	0.11	0.516		-0.14	0.28
Race: Other ^{b,c}	0.29	0.12	0.015	*	0.06	0.51
Parent Education: High School ^d	0.51	0.05	0.000	***	0.41	0.62
Parent Education: Some College ^d	0.30	0.05	0.000	***	0.19	0.40
Gender: Female ^e	0.17	0.04	0.000	***	0.09	0.25
Proportion of Households under Poverty	0.64	0.23	0.006	**	0.19	1.10
No. of Household Members	0.02	0.02	0.373		-0.02	0.05
Caregiver Smokes: Yes ^f	0.20	0.06	0.001	***	0.08	0.31
Epigenetic Assay: Batch 1 ^g	0.07	0.13	0.555		-0.17	0.32
Epigenetic Assay: Batch 2 ^g	0.15	0.12	0.220		-0.09	0.38

Note: a = No Loss (reference) b = White (reference); c = Asian, Native American, Pacific Islander, Other (other race or multi-racial); d = College or Higher reference; e = Male (reference); f = No (reference); g = Batch 3 (reference)

* $p \leq 0.05$; ** $p \leq 0.01$; *** $p \leq 0.001$

eTable 12. Parental Loss in Childhood and in Adulthood and Biological Aging (*n* = 3,963)

Horvath						
	b	se	p		95% CI (Lower Limit)	95% CI (Upper Limit)
Parental Loss in Childhood: Yes ^a	-0.07	0.08	0.357		-0.23	0.09
Parental Loss in Adulthood: Yes ^a	0.02	0.05	0.627		-0.07	0.12
Age	-0.02	0.01	0.160		-0.04	0.01
Race: Black ^b	-0.03	0.08	0.691		-0.18	0.12
Race: Hispanic ^b	-0.16	0.10	0.110		-0.35	0.04
Race: Other ^{b,c}	0.09	0.08	0.265		-0.07	0.26
Parent Education: High School ^d	0.12	0.06	0.052		0.00	0.24
Parent Education: Some College ^d	0.02	0.05	0.664		-0.08	0.12
Gender: Female ^e	-0.36	0.04	0.000	***	-0.45	-0.28
Proportion of Households under Poverty	0.09	0.20	0.658		-0.30	0.47
No. of Household Members	0.02	0.02	0.432		-0.02	0.06
Caregiver Smokes: Yes ^f	-0.08	0.06	0.192		-0.19	0.04
Epigenetic Assay: Batch 1 ^g	0.33	0.23	0.158		-0.13	0.79
Epigenetic Assay: Batch 2 ^g	0.40	0.23	0.085		-0.06	0.85
PhenoAge						
	b	se	p		95% CI (Lower Limit)	95% CI (Upper Limit)
Parental Loss in Childhood: Yes ^a	0.07	0.08	0.393		-0.09	0.24
Parental Loss in Adulthood: Yes ^a	0.10	0.05	0.035	*	0.01	0.20
Age	-0.01	0.01	0.516		-0.03	0.02
Race: Black ^b	-0.18	0.07	0.013	*	-0.32	-0.04
Race: Hispanic ^b	-0.05	0.10	0.639		-0.25	0.15
Race: Other ^{b,c}	-0.01	0.13	0.969		-0.27	0.26
Parent Education: High School ^d	0.27	0.05	0.000	***	0.16	0.38
Parent Education: Some College ^d	0.16	0.06	0.008	**	0.04	0.28
Gender: Female ^e	0.10	0.04	0.011	*	0.02	0.18
Proportion of Households under Poverty	0.15	0.24	0.536		-0.32	0.62
No. of Household Members	-0.01	0.02	0.610		-0.05	0.03
Caregiver Smokes: Yes ^f	0.08	0.05	0.115		-0.02	0.19
Epigenetic Assay: Batch 1 ^g	-0.15	0.15	0.339		-0.45	0.16
Epigenetic Assay: Batch 2 ^g	-0.16	0.16	0.321		-0.46	0.15
GrimAge						
	b	se	p		95% CI (Lower Limit)	95% CI (Upper Limit)

Parental Loss in Childhood: Yes ^a	0.11	0.10	0.260		-0.08	0.31
Parental Loss in Adulthood: Yes ^a	0.17	0.05	0.001	**	0.07	0.27
Age	-0.05	0.01	0.000	***	-0.07	-0.03
Race: Black ^b	0.13	0.07	0.045	*	0.00	0.26
Race: Hispanic ^b	-0.41	0.09	0.000	***	-0.59	-0.24
Race: Other ^{b,c}	-0.01	0.11	0.906		-0.22	0.20
Parent Education: High School ^d	0.42	0.06	0.000	***	0.30	0.54
Parent Education: Some College ^d	0.30	0.05	0.000	***	0.19	0.40
Gender: Female ^e	-0.40	0.04	0.000	***	-0.48	-0.31
Proportion of Households under Poverty	0.49	0.25	0.048	*	0.00	0.98
No. of Household Members	0.02	0.02	0.311		-0.02	0.06
Caregiver Smokes: Yes ^f	0.46	0.06	0.000	***	0.35	0.58
Epigenetic Assay: Batch 1 ^g	-0.15	0.29	0.603		-0.72	0.42
Epigenetic Assay: Batch 2 ^g	0.21	0.28	0.445		-0.34	0.76

DunedinPACE

	b	se	p		95% CI (Lower Limit)	95% CI (Upper Limit)
Parental Loss in Childhood: Yes ^a	0.09	0.09	0.337		-0.09	0.26
Parental Loss in Adulthood: Yes ^a	0.17	0.05	0.000	***	0.08	0.26
Age	0.02	0.01	0.111		0.00	0.04
Race: Black ^b	0.36	0.06	0.000	***	0.23	0.49
Race: Hispanic ^b	0.07	0.11	0.531		-0.15	0.28
Race: Other ^{b,c}	0.28	0.11	0.015	*	0.06	0.51
Parent Education: High School ^d	0.51	0.06	0.000	***	0.40	0.62
Parent Education: Some College ^d	0.30	0.05	0.000	***	0.19	0.40
Gender: Female ^e	0.17	0.04	0.000	***	0.09	0.25
Proportion of Households under Poverty	0.65	0.23	0.005	**	0.20	1.10
No. of Household Members	0.02	0.02	0.348		-0.02	0.05
Caregiver Smokes: Yes ^f	0.20	0.06	0.001	***	0.08	0.31
Epigenetic Assay: Batch 1 ^g	0.07	0.12	0.600		-0.18	0.31
Epigenetic Assay: Batch 2 ^g	0.14	0.12	0.246		-0.10	0.37

Note: a = No Loss (reference) b = White (reference); c = Asian, Native American, Pacific Islander, Other (other race or multi-racial); d = College or Higher reference; e = Male (reference); f = No (reference); g = Batch 3 (reference)

* $p \leq 0.05$; ** $p \leq 0.01$; *** $p \leq 0.001$

eTable 13. Number of Losses and Biological Aging ($n = 3,362$)

Horvath						
	b	se	p	95% CI (Lower Limit)	95% CI (Upper Limit)	
One Loss: Yes ^a	-0.03	0.05	0.593	-0.13	0.08	
Two or More Losses: Yes ^a	-0.07	0.10	0.478	-0.27	0.13	
Age	-0.01	0.01	0.291	-0.04	0.01	
Race: Black ^b	-0.03	0.10	0.775	-0.22	0.17	
Parent Education: High School ^c	0.10	0.07	0.135	-0.03	0.23	
Parent Education: Some College ^c	-0.02	0.05	0.761	-0.11	0.08	
Gender: Female ^d	-0.36	0.05	0.000	***	-0.45	-0.27
Proportion of Households under Poverty	0.26	0.20	0.182	-0.13	0.65	
No. of Household Members	0.03	0.02	0.149	-0.01	0.07	
Caregiver Smokes: Yes ^e	-0.10	0.06	0.076	-0.21	0.01	
Epigenetic Assay: Batch 1 ^f	0.32	0.28	0.247	-0.23	0.87	
Epigenetic Assay: Batch 2 ^f	0.38	0.27	0.168	-0.16	0.92	
One Loss* Race	0.00	0.14	0.993	-0.27	0.27	
Two or More Losses*Race	-0.09	0.18	0.630	-0.43	0.26	
PhenoAge						
	b	se	p	95% CI (Lower Limit)	95% CI (Upper Limit)	
One Loss: Yes ^a	0.09	0.05	0.083	-0.01	0.20	
Two or More Losses: Yes ^a	0.06	0.09	0.509	-0.12	0.24	
Age	0.00	0.01	0.914	-0.03	0.03	
Race: Black ^b	-0.17	0.10	0.100	-0.37	0.03	
Parent Education: High School ^c	0.27	0.06	0.000	***	0.15	0.39
Parent Education: Some College ^c	0.15	0.06	0.014	*	0.03	0.28
Gender: Female ^d	0.09	0.04	0.033	*	0.01	0.18
Proportion of Households under Poverty	0.19	0.25	0.444	-0.30	0.68	
No. of Household Members	-0.01	0.02	0.654	-0.06	0.03	
Caregiver Smokes: Yes ^e	0.06	0.05	0.232	-0.04	0.17	
Epigenetic Assay: Batch 1 ^f	-0.24	0.15	0.117	-0.55	0.06	
Epigenetic Assay: Batch 2 ^f	-0.26	0.16	0.102	-0.57	0.05	
One Loss* Race	-0.15	0.15	0.341	-0.45	0.16	
Two or More Losses*Race	0.16	0.18	0.356	-0.19	0.52	
GrimAge						

	b	se	p		95% CI (Lower Limit)	95% CI (Upper Limit)
One Loss: Yes ^a	0.23	0.06	0.000	***	0.12	0.35
Two or More Losses: Yes ^a	0.22	0.12	0.075		-0.02	0.47
Age	-0.05	0.01	0.000	***	-0.07	-0.02
Race: Black ^b	0.12	0.08	0.166		-0.05	0.28
Parent Education: High School ^c	0.44	0.07	0.000	***	0.31	0.57
Parent Education: Some College ^c	0.30	0.06	0.000	***	0.19	0.42
Gender: Female ^d	-0.41	0.05	0.000	***	-0.51	-0.31
Proportion of Households under Poverty	0.60	0.28	0.033	*	0.05	1.15
No. of Household Members	0.03	0.02	0.232		-0.02	0.08
Caregiver Smokes: Yes ^e	0.44	0.06	0.000	***	0.33	0.56
Epigenetic Assay: Batch 1 ^f	-0.20	0.31	0.525		-0.82	0.42
Epigenetic Assay: Batch 2 ^f	0.15	0.31	0.628		-0.46	0.76
One Loss* Race	-0.14	0.13	0.291		-0.40	0.12
Two or More Losses*Race	0.12	0.19	0.545		-0.27	0.50
DunedinPACE						

	b	se	p		95% CI (Lower Limit)	95% CI (Upper Limit)
One Loss: Yes ^a	0.21	0.05	0.00	***	0.11	0.32
Two or More Losses: Yes ^a	0.12	0.09	0.18		-0.06	0.29
Age	0.02	0.01	0.03	*	0.00	0.05
Race: Black ^b	0.35	0.09	0.00	***	0.17	0.53
Parent Education: High School ^c	0.51	0.06	0.00	***	0.40	0.63
Parent Education: Some College ^c	0.31	0.05	0.00	***	0.20	0.42
Gender: Female ^d	0.16	0.04	0.00	***	0.08	0.25
Proportion of Households under Poverty	0.58	0.24	0.02	*	0.11	1.05
No. of Household Members	0.02	0.02	0.25		-0.02	0.06
Caregiver Smokes: Yes ^e	0.19	0.06	0.00	**	0.07	0.30
Epigenetic Assay: Batch 1 ^f	0.15	0.15	0.32		-0.14	0.43
Epigenetic Assay: Batch 2 ^f	0.22	0.14	0.13		-0.06	0.50
One Loss* Race	-0.14	0.14	0.31		-0.42	0.14
Two or More Losses*Race	0.29	0.17	0.08	.	-0.04	0.62

Note: a = No Loss (reference) b = White (reference); c = College or Higher reference; d = Male (reference); e = No (reference); f = Batch 3 (reference)

* $p \leq 0.05$; ** $p \leq 0.01$; *** $p \leq 0.001$

eTable 14. Parental Loss at Any Time Period (Childhood to Adulthood) and Biological Aging ($n = 3,362$)

Horvath						
	b	se	p		95% CI (Lower Limit)	95% CI (Upper Limit)
Parental Loss: Yes ^a	-0.02	0.05	0.730		-0.12	0.08
Age	-0.01	0.01	0.246		-0.04	0.01
Race: Black ^b	-0.07	0.10	0.459		-0.26	0.12
Parent Education: High School ^c	0.10	0.07	0.159		-0.04	0.23
Parent Education: Some College ^c	-0.02	0.05	0.754		-0.11	0.08
Gender: Female ^d	-0.36	0.05	0.000	***	-0.46	-0.27
Proportion of Households under Poverty	0.23	0.19	0.235		-0.15	0.62
No. of Household Members	0.03	0.02	0.155		-0.01	0.07
Caregiver Smokes: Yes ^e	-0.10	0.06	0.064		-0.22	0.01
Epigenetic Assay: Batch 1 ^f	0.32	0.28	0.252		-0.23	0.86
Epigenetic Assay: Batch 2 ^f	0.37	0.27	0.170		-0.16	0.91
Parental Loss*Race	0.05	0.12	0.690		-0.19	0.28
PhenoAge						
	b	se	p		95% CI (Lower Limit)	95% CI (Upper Limit)
Parental Loss: Yes ^a	0.10	0.06	0.084		-0.01	0.21
Age	0.00	0.01	0.957		-0.03	0.03
Race: Black ^b	-0.23	0.10	0.019	*	-0.42	-0.04
Parent Education: High School ^c	0.27	0.06	0.000	***	0.15	0.39
Parent Education: Some College ^c	0.16	0.06	0.012	*	0.04	0.28
Gender: Female ^d	0.10	0.04	0.021	*	0.02	0.19
Proportion of Households under Poverty	0.19	0.25	0.450		-0.31	0.69
No. of Household Members	-0.01	0.02	0.762		-0.05	0.04
Caregiver Smokes: Yes ^e	0.05	0.05	0.304		-0.05	0.16
Epigenetic Assay: Batch 1 ^f	-0.26	0.15	0.096		-0.56	0.05
Epigenetic Assay: Batch 2 ^f	-0.27	0.16	0.080		-0.58	0.03
Parental Loss*Race	0.08	0.13	0.545		-0.18	0.34
GrimAge						
	b	se	p		95% CI (Lower Limit)	95% CI (Upper Limit)
Parental Loss: Yes ^a	0.23	0.06	0.000	***	0.11	0.35
Age	-0.05	0.01	0.001	***	-0.07	-0.02
Race: Black ^b	0.10	0.08	0.186		-0.05	0.26

Parent Education: High School ^c	0.46	0.07	0.000	***	0.33	0.59
Parent Education: Some College ^c	0.31	0.06	0.000	***	0.19	0.43
Gender: Female ^d	-0.40	0.05	0.000	***	-0.50	-0.31
Proportion of Households under Poverty	0.62	0.28	0.031	*	0.06	1.18
No. of Household Members	0.03	0.02	0.176		-0.02	0.08
Caregiver Smokes: Yes ^e	0.44	0.06	0.000	***	0.32	0.55
Epigenetic Assay: Batch 1 ^f	-0.21	0.31	0.497		-0.83	0.40
Epigenetic Assay: Batch 2 ^f	0.13	0.30	0.658		-0.47	0.74
Parental Loss*Race	-0.03	0.12	0.826		-0.26	0.21

DunedinPACE

	b	se	p		95% CI (Lower Limit)	95% CI (Upper Limit)
Parental Loss: Yes ^a	0.18	0.05	0.000	***	0.09	0.28
Age	0.03	0.01	0.023	*	0.00	0.05
Race: Black ^b	0.29	0.09	0.001	**	0.11	0.46
Parent Education: High School ^c	0.52	0.06	0.000	***	0.41	0.64
Parent Education: Some College ^c	0.32	0.05	0.000	***	0.21	0.42
Gender: Female ^d	0.18	0.04	0.000	***	0.09	0.26
Proportion of Households under Poverty	0.59	0.24	0.016	*	0.11	1.06
No. of Household Members	0.03	0.02	0.167		-0.01	0.07
Caregiver Smokes: Yes ^e	0.17	0.06	0.003	**	0.06	0.29
Epigenetic Assay: Batch 1 ^f	0.13	0.14	0.372		-0.15	0.41
Epigenetic Assay: Batch 2 ^f	0.20	0.14	0.163		-0.08	0.47
Parental Loss*Race	0.14	0.11	0.232		-0.09	0.36

Note: a = No Loss (reference) b = White (reference); c = College or Higher reference; d = Male (reference); e = No (reference); f = Batch 3 (reference)

* $p \leq 0.05$; ** $p \leq 0.01$; *** $p \leq 0.001$

eTable 15. Any Loss in Childhood and in Adulthood and Biological Aging (*n* = 3,362)

Horvath						
	b	se	p	95% CI (Lower Limit)	95% CI (Upper Limit)	
Any Loss in Childhood: Yes ^a	0.04	0.10	0.651	-0.15	0.24	
Any Loss in Adulthood: Yes ^a	-0.03	0.06	0.575	-0.14	0.08	
Age	-0.01	0.01	0.247	-0.04	0.01	
Race: Black ^b	-0.04	0.10	0.689	-0.23	0.15	
Parent Education: High School ^c	0.10	0.07	0.151	-0.04	0.23	
Parent Education: Some College ^c	-0.02	0.05	0.759	-0.11	0.08	
Gender: Female ^d	-0.36	0.05	0.000	***	-0.45	-0.27
Proportion of Households under Poverty	0.25	0.20	0.204	-0.14	0.64	
No. of Household Members	0.03	0.02	0.143	-0.01	0.07	
Caregiver Smokes: Yes ^e	-0.11	0.06	0.056	-0.22	0.00	
Epigenetic Assay: Batch 1 ^f	0.31	0.28	0.259	-0.23	0.86	
Epigenetic Assay: Batch 2 ^f	0.37	0.27	0.177	-0.17	0.90	
Any Loss in Childhood* Race	-0.29	0.17	0.100	-0.63	0.06	
Any Loss in Adulthood*Race	0.07	0.14	0.619	-0.20	0.34	
PhenoAge						
	b	se	p	95% CI (Lower Limit)	95% CI (Upper Limit)	
Any Loss in Childhood: Yes ^a	0.04	0.10	0.694	-0.16	0.24	
Any Loss in Adulthood: Yes ^a	0.08	0.06	0.169	-0.03	0.19	
Age	0.00	0.01	0.980	-0.03	0.03	
Race: Black ^b	-0.21	0.10	0.037	*	-0.40	-0.01
Parent Education: High School ^c	0.27	0.06	0.000	***	0.15	0.39
Parent Education: Some College ^c	0.16	0.06	0.013	*	0.03	0.28
Gender: Female ^d	0.10	0.04	0.024	*	0.01	0.18
Proportion of Households under Poverty	0.20	0.25	0.436	-0.30	0.69	
No. of Household Members	-0.01	0.02	0.719	-0.05	0.04	
Caregiver Smokes: Yes ^e	0.06	0.05	0.273	-0.05	0.16	
Epigenetic Assay: Batch 1 ^f	-0.24	0.15	0.114	-0.55	0.06	
Epigenetic Assay: Batch 2 ^f	-0.26	0.16	0.096	-0.57	0.05	
Any Loss in Childhood* Race	0.09	0.20	0.662	-0.30	0.48	
Any Loss in Adulthood*Race	0.01	0.14	0.940	-0.26	0.28	
GrimAge						
	b	se	p	95% CI (Lower Limit)	95% CI (Upper Limit)	

Any Loss in Childhood: Yes ^a	0.09	0.11	0.430		-0.13	0.30
Any Loss in Adulthood: Yes ^a	0.19	0.06	0.002	**	0.07	0.30
Age	-0.05	0.01	0.001	***	-0.07	-0.02
Race: Black ^b	0.10	0.09	0.247		-0.07	0.28
Parent Education: High School ^c	0.46	0.07	0.000	***	0.33	0.59
Parent Education: Some College ^c	0.31	0.06	0.000	***	0.19	0.43
Gender: Female ^d	-0.41	0.05	0.000	***	-0.50	-0.31
Proportion of Households under Poverty	0.61	0.28	0.030	*	0.06	1.16
No. of Household Members	0.03	0.02	0.208		-0.02	0.08
Caregiver Smokes: Yes ^e	0.44	0.06	0.000	***	0.32	0.56
Epigenetic Assay: Batch 1 ^f	-0.19	0.31	0.546		-0.81	0.43
Epigenetic Assay: Batch 2 ^f	0.16	0.31	0.610		-0.45	0.76
Any Loss in Childhood* Race	0.14	0.20	0.487		-0.25	0.52
Any Loss in Adulthood*Race	-0.05	0.14	0.691		-0.32	0.22

DunedinPACE

	b	se	p		95% CI (Lower Limit)	95% CI (Upper Limit)
Any Loss in Childhood: Yes ^a	0.05	0.11	0.622		-0.16	0.27
Any Loss in Adulthood: Yes ^a	0.16	0.05	0.002	**	0.06	0.26
Age	0.03	0.01	0.021	*	0.00	0.05
Race: Black ^b	0.33	0.09	0.000	***	0.15	0.50
Parent Education: High School ^c	0.52	0.06	0.000	***	0.40	0.64
Parent Education: Some College ^c	0.31	0.05	0.000	***	0.21	0.42
Gender: Female ^d	0.17	0.04	0.000	***	0.08	0.26
Proportion of Households under Poverty	0.59	0.24	0.015	*	0.12	1.07
No. of Household Members	0.03	0.02	0.200		-0.01	0.07
Caregiver Smokes: Yes ^e	0.18	0.06	0.002	**	0.07	0.29
Epigenetic Assay: Batch 1 ^f	0.15	0.15	0.310		-0.14	0.43
Epigenetic Assay: Batch 2 ^f	0.22	0.14	0.129		-0.06	0.50
Any Loss in Childhood* Race	0.17	0.17	0.299		-0.16	0.50
Any Loss in Adulthood*Race	0.02	0.13	0.855		-0.23	0.28

Note: a = No Loss (reference) b = White (reference); c = College or Higher reference; d = Male (reference); e = No (reference); f = Batch 3 (reference)

* $p \leq 0.05$; ** $p \leq 0.01$; *** $p \leq 0.001$

eTable 16. Parental Loss in Childhood and in Adulthood and Biological Aging (*n* = 3,362)

Horvath						
	b	se	p	95% CI (Lower Limit)	95% CI (Upper Limit)	
Parental Loss in Childhood: Yes ^a	-0.02	0.11	0.855	-0.23	0.19	
Parental Loss in Adulthood: Yes ^a	-0.01	0.06	0.915	-0.12	0.11	
Age	-0.01	0.01	0.228	-0.04	0.01	
Race: Black ^b	-0.09	0.09	0.370	-0.27	0.10	
Parent Education: High School ^c	0.10	0.07	0.152	-0.04	0.23	
Parent Education: Some College ^c	-0.02	0.05	0.762	-0.11	0.08	
Gender: Female ^d	-0.36	0.05	0.000	***	-0.45	-0.27
Proportion of Households under Poverty	0.23	0.20	0.251	-0.16	0.61	
No. of Household Members	0.03	0.02	0.148	-0.01	0.07	
Caregiver Smokes: Yes ^e	-0.11	0.06	0.053	-0.22	0.00	
Epigenetic Assay: Batch 1 ^f	0.32	0.27	0.247	-0.22	0.86	
Epigenetic Assay: Batch 2 ^f	0.37	0.27	0.170	-0.16	0.90	
Parental Loss in Childhood* Race	-0.13	0.19	0.487	-0.51	0.25	
Parental Loss in Adulthood*Race	0.13	0.14	0.354	-0.15	0.41	
PhenoAge						
	b	se	p	95% CI (Lower Limit)	95% CI (Upper Limit)	
Parental Loss in Childhood: Yes ^a	0.01	0.11	0.902	-0.21	0.23	
Parental Loss in Adulthood: Yes ^a	0.11	0.06	0.070	-0.01	0.22	
Age	0.00	0.01	0.937	-0.03	0.03	
Race: Black ^b	-0.22	0.09	0.016	*	-0.41	-0.04
Parent Education: High School ^c	0.27	0.06	0.000	***	0.15	0.39
Parent Education: Some College ^c	0.16	0.06	0.013	*	0.03	0.28
Gender: Female ^d	0.10	0.04	0.023	*	0.01	0.18
Proportion of Households under Poverty	0.20	0.25	0.437	-0.30	0.70	
No. of Household Members	-0.01	0.02	0.741	-0.05	0.04	
Caregiver Smokes: Yes ^e	0.06	0.05	0.273	-0.05	0.16	
Epigenetic Assay: Batch 1 ^f	-0.26	0.15	0.095	.	-0.56	0.05
Epigenetic Assay: Batch 2 ^f	-0.27	0.16	0.081	.	-0.58	0.03
Parental Loss in Childhood* Race	0.25	0.19	0.205	-0.14	0.63	
Parental Loss in Adulthood*Race	0.02	0.14	0.859	-0.25	0.30	
GrimAge						
	b	se	p	95% CI (Lower Limit)	95% CI (Upper Limit)	
Parental Loss in Childhood: Yes ^a	0.14	0.13	0.275	-0.11	0.39	

Parental Loss in Adulthood: Yes ^a	0.19	0.06	0.002	**	0.07	0.30
Age	-0.05	0.01	0.001	***	-0.07	-0.02
Race: Black ^b	0.11	0.08	0.179		-0.05	0.27
Parent Education: High School ^c	0.46	0.07	0.000	***	0.33	0.59
Parent Education: Some College ^c	0.31	0.06	0.000	***	0.19	0.43
Gender: Female ^d	-0.40	0.05	0.000	***	-0.50	-0.31
Proportion of Households under Poverty	0.63	0.28	0.027	*	0.07	1.19
No. of Household Members	0.03	0.02	0.186		-0.02	0.08
Caregiver Smokes: Yes ^e	0.44	0.06	0.000	***	0.32	0.56
Epigenetic Assay: Batch 1 ^f	-0.20	0.31	0.515		-0.82	0.41
Epigenetic Assay: Batch 2 ^f	0.14	0.30	0.639		-0.46	0.75
Parental Loss in Childhood* Race	0.02	0.21	0.911		-0.40	0.44
Parental Loss in Adulthood*Race	-0.03	0.14	0.829		-0.30	0.24

DunedinPACE

	b	se	p		95% CI (Lower Limit)	95% CI (Upper Limit)
Parental Loss in Childhood: Yes ^a	0.09	0.12	0.427		-0.14	0.33
Parental Loss in Adulthood: Yes ^a	0.16	0.05	0.003	**	0.06	0.26
Age	0.03	0.01	0.021	*	0.00	0.05
Race: Black ^b	0.29	0.09	0.002	**	0.11	0.47
Parent Education: High School ^c	0.53	0.06	0.000	***	0.41	0.65
Parent Education: Some College ^c	0.32	0.05	0.000	***	0.21	0.42
Gender: Female ^d	0.17	0.04	0.000	***	0.09	0.26
Proportion of Households under Poverty	0.60	0.24	0.014	*	0.13	1.07
No. of Household Members	0.03	0.02	0.184		-0.01	0.07
Caregiver Smokes: Yes ^e	0.18	0.06	0.003	**	0.06	0.29
Epigenetic Assay: Batch 1 ^f	0.13	0.14	0.349		-0.15	0.41
Epigenetic Assay: Batch 2 ^f	0.20	0.14	0.148		-0.07	0.47
Parental Loss in Childhood* Race	0.17	0.19	0.367		-0.20	0.54
Parental Loss in Adulthood*Race	0.14	0.13	0.278		-0.11	0.39

Note: a = No Loss (reference) b = White (reference); c = College or Higher reference; d = Male (reference); e = No (reference); f = Batch 3 (reference)

* $p \leq 0.05$; ** $p \leq 0.01$; *** $p \leq 0.001$

eTable 17. Parental Loss by Gender of Parent at Any Time Period (Childhood to Adulthood) and Biological Aging (n = 3,963)

	Horvath			95% CI (Lower Limit)	95% CI (Upper Limit)	
	b	se	p			
Parental Loss (Mother or Mother Figure): Yes ^a	0.00	0.07	0.98	-0.13	0.13	
Parental Loss (Father or Father Figure): Yes ^a	-0.02	0.05	0.71	-0.11	0.08	
Age	-0.02	0.01	0.14	-0.04	0.01	
Race: Black ^b	-0.04	0.07	0.62	-0.18	0.11	
Race: Hispanic ^b	-0.16	0.10	0.11	-0.36	0.03	
Race: Other ^{b,c}	0.09	0.08	0.27	-0.07	0.26	
Parent Education: High School ^d	0.13	0.06	0.04	*	0.01	0.25
Parent Education: Some College ^d	0.02	0.05	0.65	-0.08	0.12	
Gender: Female ^e	-0.36	0.04	0.00	***	-0.45	-0.28
Proportion of Households under Poverty	0.06	0.20	0.75	-0.33	0.45	
No. of Household Members	0.02	0.02	0.34	-0.02	0.06	
Caregiver Smokes: Yes ^f	-0.08	0.06	0.18	-0.20	0.04	
Epigenetic Assay: Batch 1 ^g	0.33	0.24	0.16	-0.13	0.80	
Epigenetic Assay: Batch 2 ^g	0.40	0.23	0.08	-0.05	0.86	
	PhenoAge			95% CI (Lower Limit)	95% CI (Upper Limit)	
	b	se	p			
Parental Loss (Mother or Mother Figure): Yes ^a	0.13	0.06	0.04	*	0.01	0.25
Parental Loss (Father or Father Figure): Yes ^a	0.09	0.05	0.08		-0.01	0.20
Age	-0.01	0.01	0.42		-0.04	0.01
Race: Black ^b	-0.20	0.07	0.01	**	-0.34	-0.05
Race: Hispanic ^b	-0.05	0.10	0.64		-0.25	0.16
Race: Other ^{b,c}	-0.01	0.13	0.96		-0.27	0.26
Parent Education: High School ^d	0.27	0.05	0.00	***	0.16	0.38
Parent Education: Some College ^d	0.16	0.06	0.01	**	0.04	0.28
Gender: Female ^e	0.11	0.04	0.01	**	0.03	0.19
Proportion of Households under Poverty	0.12	0.24	0.62		-0.36	0.60
No. of Household Members	-0.01	0.02	0.72		-0.05	0.03
Caregiver Smokes: Yes ^f	0.07	0.05	0.17		-0.03	0.18
Epigenetic Assay: Batch 1 ^g	-0.15	0.15	0.31		-0.45	0.15
Epigenetic Assay: Batch 2 ^g	-0.16	0.16	0.31		-0.47	0.15
	GrimAge			95% CI (Lower Limit)	95% CI (Upper Limit)	
	b	se	p			

	b	se	p		95% CI (Lower Limit)	95% CI (Upper Limit)
Parental Loss (Mother or Mother Figure): Yes ^a	0.16	0.07	0.02	*	0.02	0.30
Parental Loss (Father or Father Figure): Yes ^a	0.18	0.05	0.00	***	0.08	0.28
Age	-0.05	0.01	0.00	***	-0.07	-0.03
Race: Black ^b	0.13	0.07	0.05		0.00	0.26
Race: Hispanic ^b	-0.41	0.09	0.00	***	-0.59	-0.23
Race: Other ^{b,c}	-0.02	0.10	0.88		-0.22	0.19
Parent Education: High School ^d	0.41	0.06	0.00	***	0.29	0.53
Parent Education: Some College ^d	0.29	0.05	0.00	***	0.19	0.40
Gender: Female ^e	-0.40	0.04	0.00	***	-0.48	-0.31
Proportion of Households under Poverty	0.49	0.25	0.05	*	0.01	0.98
No. of Household Members	0.02	0.02	0.35		-0.02	0.06
Caregiver Smokes: Yes ^f	0.46	0.06	0.00	***	0.35	0.58
Epigenetic Assay: Batch 1 ^g	-0.16	0.29	0.58		-0.73	0.41
Epigenetic Assay: Batch 2 ^g	0.20	0.28	0.47		-0.35	0.75

DunedinPACE

	b	se	p		95% CI (Lower Limit)	95% CI (Upper Limit)
Parental Loss (Mother or Mother Figure): Yes ^a	0.21	0.06	0.00	**	0.08	0.34
Parental Loss (Father or Father Figure): Yes ^a	0.14	0.04	0.00	**	0.05	0.22
Age	0.02	0.01	0.12		0.00	0.04
Race: Black ^b	0.35	0.07	0.00	***	0.22	0.48
Race: Hispanic ^b	0.07	0.11	0.50		-0.14	0.29
Race: Other ^{b,c}	0.28	0.11	0.02	*	0.05	0.50
Parent Education: High School ^d	0.50	0.05	0.00	***	0.40	0.61
Parent Education: Some College ^d	0.30	0.05	0.00	***	0.19	0.40
Gender: Female ^e	0.17	0.04	0.00	***	0.09	0.25
Proportion of Households under Poverty	0.65	0.23	0.01	**	0.20	1.11
No. of Household Members	0.02	0.02	0.38		-0.02	0.05
Caregiver Smokes: Yes ^f	0.20	0.06	0.00	***	0.08	0.31
Epigenetic Assay: Batch 1 ^g	0.06	0.13	0.61		-0.18	0.31
Epigenetic Assay: Batch 2 ^g	0.13	0.12	0.26		-0.10	0.37

Note: a = No Loss (reference) b = White (reference); c = Asian, Native American, Pacific Islander, Other (other race or multi-racial); d = College or Higher reference; e = Male (reference); f = No (reference); g = Batch 3 (reference)

* $p \leq 0.05$; ** $p \leq 0.01$; *** $p \leq 0.001$

eTable 18. Interaction Between Any Loss in Childhood and in Adulthood and its Association With Biological Aging ($n = 3,963$)

	Horvath			95% CI (Lower Limit)	95% CI (Upper Limit)	
	b	se	p			
Any Loss in Childhood: Yes ^a	-0.02	0.09	0.82	-0.20	0.16	
Any Loss in Adulthood: Yes ^a	0.00	0.05	0.93	-0.10	0.10	
Age	-0.02	0.01	0.19	-0.04	0.01	
Race: Black ^b	-0.03	0.08	0.70	-0.18	0.12	
Race: Hispanic ^b	-0.16	0.10	0.10	-0.35	0.03	
Race: Other ^{b,c}	0.10	0.08	0.27	-0.07	0.26	
Parent Education: High School ^d	0.12	0.06	0.05	0.00	0.25	
Parent Education: Some College ^d	0.02	0.05	0.65	-0.08	0.12	
Gender: Female ^e	-0.36	0.04	0.00	***	-0.45	-0.28
Proportion of Households under Poverty	0.10	0.19	0.59	-0.28	0.49	
No. of Household Members	0.02	0.02	0.44	-0.02	0.06	
Caregiver Smokes: Yes ^f	-0.07	0.06	0.22	-0.19	0.04	
Epigenetic Assay: Batch 1 ^g	0.33	0.23	0.16	-0.13	0.80	
Epigenetic Assay: Batch 2 ^g	0.40	0.23	0.08	-0.05	0.85	
Any Loss in Childhood*Any Loss in Adulthood	-0.13	0.17	0.43	-0.46	0.20	
PhenoAge						
	b	se	p	95% CI (Lower Limit)	95% CI (Upper Limit)	
Any Loss in Childhood: Yes ^a	0.19	0.11	0.08	-0.03	0.40	
Any Loss in Adulthood: Yes ^a	0.11	0.05	0.02	*	0.02	0.21
Age	-0.01	0.01	0.56	-0.03	0.02	
Race: Black ^b	-0.19	0.07	0.01	**	-0.33	-0.05
Race: Hispanic ^b	-0.05	0.10	0.62	-0.25	0.15	
Race: Other ^{b,c}	0.00	0.13	0.98	-0.27	0.26	
Parent Education: High School ^d	0.27	0.05	0.00	***	0.16	0.38
Parent Education: Some College ^d	0.16	0.06	0.01	**	0.04	0.28
Gender: Female ^e	0.10	0.04	0.01	*	0.02	0.18
Proportion of Households under Poverty	0.16	0.24	0.51	-0.31	0.63	
No. of Household Members	-0.01	0.02	0.60	-0.05	0.03	
Caregiver Smokes: Yes ^f	0.09	0.05	0.09	-0.01	0.19	
Epigenetic Assay: Batch 1 ^g	-0.15	0.15	0.34	-0.45	0.16	
Epigenetic Assay: Batch 2 ^g	-0.16	0.16	0.33	-0.47	0.16	
Any Loss in Childhood*Any Loss in Adulthood	-0.33	0.17	0.05	-0.66	0.00	
GrimAge						

	b	se	p		95% CI (Lower Limit)	95% CI (Upper Limit)
Any Loss in Childhood: Yes ^a	0.17	0.11	0.12		-0.05	0.38
Any Loss in Adulthood: Yes ^a	0.18	0.05	0.00	***	0.08	0.28
Age	-0.05	0.01	0.00	***	-0.07	-0.03
Race: Black ^b	0.13	0.06	0.05		0.00	0.25
Race: Hispanic ^b	-0.41	0.09	0.00	***	-0.59	-0.24
Race: Other ^{b,c}	-0.01	0.11	0.92		-0.22	0.20
Parent Education: High School ^d	0.42	0.06	0.00	***	0.30	0.54
Parent Education: Some College ^d	0.29	0.05	0.00	***	0.19	0.40
Gender: Female ^e	-0.40	0.04	0.00	***	-0.48	-0.31
Proportion of Households under Poverty	0.49	0.24	0.05	*	0.00	0.97
No. of Household Members	0.02	0.02	0.32		-0.02	0.06
Caregiver Smokes: Yes ^f	0.46	0.06	0.00	***	0.34	0.58
Epigenetic Assay: Batch 1 ^g	-0.15	0.29	0.61		-0.72	0.43
Epigenetic Assay: Batch 2 ^g	0.22	0.28	0.44		-0.34	0.77
Any Loss in Childhood*Any Loss in Adulthood	-0.16	0.18	0.36		-0.51	0.19

DunedinPACE

	b	se	p		95% CI (Lower Limit)	95% CI (Upper Limit)
Any Loss in Childhood: Yes ^a	0.20	0.10	0.06		0.00	0.40
Any Loss in Adulthood: Yes ^a	0.18	0.05	0.00	***	0.09	0.27
Age	0.02	0.01	0.10		0.00	0.04
Race: Black ^b	0.35	0.07	0.00	***	0.22	0.48
Race: Hispanic ^b	0.07	0.11	0.54		-0.15	0.28
Race: Other ^{b,c}	0.29	0.12	0.01	*	0.06	0.51
Parent Education: High School ^d	0.51	0.06	0.00	***	0.40	0.62
Parent Education: Some College ^d	0.30	0.05	0.00	***	0.19	0.40
Gender: Female ^e	0.17	0.04	0.00	***	0.09	0.25
Proportion of Households under Poverty	0.66	0.23	0.00	**	0.20	1.11
No. of Household Members	0.02	0.02	0.36		-0.02	0.05
Caregiver Smokes: Yes ^f	0.20	0.06	0.00	***	0.09	0.32
Epigenetic Assay: Batch 1 ^g	0.07	0.13	0.59		-0.18	0.32
Epigenetic Assay: Batch 2 ^g	0.14	0.12	0.25		-0.10	0.38
Any Loss in Childhood*Any Loss in Adulthood	-0.34	0.15	0.03	*	-0.64	-0.04

Note: a = No Loss (reference) b = White (reference); c = Asian, Native American, Pacific Islander, Other (other race or multi-racial); d = College or Higher reference; e = Male (reference); f = No (reference); g = Batch 3 (reference)

* $p \leq 0.05$; ** $p \leq 0.01$; *** $p \leq 0.001$

eTable 19. Interaction Between Parental Loss in Childhood and in Adulthood and its Association With Biological Aging (n=3,963)

Horvath						
	b	se	p		95% CI (Lower Limit)	95% (Upper
Parental Loss in Childhood: Yes ^a	-0.10	0.09	0.30		-0.29	0.0
Parental Loss in Adulthood: Yes ^a	0.02	0.05	0.72		-0.08	0.0
Age	-0.02	0.01	0.16		-0.04	0.0
Race: Black ^b	-0.03	0.08	0.71		-0.18	0.0
Race: Hispanic ^b	-0.16	0.10	0.11		-0.35	0.0
Race: Other ^{b,c}	0.09	0.08	0.27		-0.07	0.0
Parent Education: High School ^d	0.12	0.06	0.05		0.00	0.0
Parent Education: Some College ^d	0.02	0.05	0.66		-0.08	0.0
Gender: Female ^e	-0.36	0.04	0.00	***	-0.45	-0.0
Proportion of Households under Poverty	0.09	0.20	0.66		-0.30	0.0
No. of Household Members	0.02	0.02	0.43		-0.02	0.0
Caregiver Smokes: Yes ^f	-0.08	0.06	0.19		-0.19	0.0
Epigenetic Assay: Batch 1 ^g	0.33	0.23	0.16		-0.13	0.0
Epigenetic Assay: Batch 2 ^g	0.40	0.23	0.09		-0.06	0.0
Parental Loss in Childhood*Parental Loss in Adulthood	0.09	0.20	0.67		-0.32	0.0
PhenoAge						
	b	se	p		95% CI (Lower Limit)	95% (Upper
Parental Loss in Childhood: Yes ^a	0.12	0.11	0.26		-0.09	0.0
Parental Loss in Adulthood: Yes ^a	0.12	0.05	0.02	*	0.02	0.0
Age	-0.01	0.01	0.52		-0.03	0.0
Race: Black ^b	-0.19	0.07	0.01	**	-0.33	-0.0
Race: Hispanic ^b	-0.05	0.10	0.64		-0.25	0.0
Race: Other ^{b,c}	0.00	0.13	0.98		-0.27	0.0
Parent Education: High School ^d	0.27	0.05	0.00	***	0.16	0.0
Parent Education: Some College ^d	0.16	0.06	0.01	**	0.04	0.0
Gender: Female ^e	0.10	0.04	0.01	*	0.02	0.0
Proportion of Households under Poverty	0.15	0.24	0.53		-0.32	0.0
No. of Household Members	-0.01	0.02	0.61		-0.05	0.0
Caregiver Smokes: Yes ^f	0.09	0.05	0.11		-0.02	0.0
Epigenetic Assay: Batch 1 ^g	-0.15	0.15	0.34		-0.45	0.0
Epigenetic Assay: Batch 2 ^g	-0.16	0.16	0.32		-0.47	0.0
Parental Loss in Childhood*Parental Loss in Adulthood	-0.19	0.19	0.33		-0.57	0.0
GrimAge						

	b	se	p		95% CI (Lower Limit)	95% CI (Upper Limit)
Parental Loss in Childhood: Yes ^a	0.17	0.12	0.14		-0.06	0.41
Parental Loss in Adulthood: Yes ^a	0.18	0.05	0.00	***	0.08	0.28
Age	-0.05	0.01	0.00	***	-0.07	-0.03
Race: Black ^b	0.13	0.06	0.05	.	0.00	0.25
Race: Hispanic ^b	-0.42	0.09	0.00	***	-0.59	-0.24
Race: Other ^{b,c}	-0.01	0.11	0.92		-0.22	0.20
Parent Education: High School ^d	0.42	0.06	0.00	***	0.30	0.54
Parent Education: Some College ^d	0.29	0.05	0.00	***	0.19	0.40
Gender: Female ^e	-0.40	0.04	0.00	***	-0.48	-0.31
Proportion of Households under Poverty	0.49	0.25	0.05	*	0.01	0.98
No. of Household Members	0.02	0.02	0.31		-0.02	0.06
Caregiver Smokes: Yes ^f	0.46	0.06	0.00	***	0.35	0.58
Epigenetic Assay: Batch 1 ^g	-0.15	0.29	0.60		-0.72	0.42
Epigenetic Assay: Batch 2 ^g	0.21	0.28	0.45		-0.34	0.76
Parental Loss in Childhood*Parental Loss in Adulthood	-0.24	0.19	0.23		-0.62	0.15

DunedinPACE

	b	se	p		95% CI (Lower Limit)	95% CI (Upper Limit)
Parental Loss in Childhood: Yes ^a	0.19	0.11	0.08	.	-0.02	0.41
Parental Loss in Adulthood: Yes ^a	0.19	0.05	0.00	***	0.10	0.28
Age	0.02	0.01	0.10		0.00	0.04
Race: Black ^b	0.35	0.07	0.00	***	0.22	0.48
Race: Hispanic ^b	0.07	0.11	0.54		-0.15	0.28
Race: Other ^{b,c}	0.29	0.11	0.01	*	0.06	0.51
Parent Education: High School ^d	0.51	0.06	0.00	***	0.40	0.62
Parent Education: Some College ^d	0.30	0.05	0.00	***	0.19	0.40
Gender: Female ^e	0.17	0.04	0.00	***	0.09	0.25
Proportion of Households under Poverty	0.65	0.23	0.01	**	0.20	1.11
No. of Household Members	0.02	0.02	0.34		-0.02	0.05
Caregiver Smokes: Yes ^f	0.20	0.06	0.00	***	0.09	0.32
Epigenetic Assay: Batch 1 ^g	0.06	0.12	0.61		-0.18	0.31
Epigenetic Assay: Batch 2 ^g	0.14	0.12	0.26		-0.10	0.37
Parental Loss in Childhood*Parental Loss in Adulthood	-0.40	0.19	0.04	*	-0.77	-0.02

Note: a = No Loss (reference) b = White (reference); c = Asian, Native American, Pacific Islander, Other (other race or multiracial); d = College or Higher reference; e = Male (reference); f = No (reference); g = Batch 3 (reference)

* $p \leq 0.05$; ** $p \leq 0.01$; *** $p \leq 0.001$