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Appendix:

Consistency between the Paley Multiplier and the Berkeley Series Age Based Multipliers:

The consistency between the Paley and the actual age-based multipliers is very good with only minor statistically significant differences indicating comparability of the series. For each of those with differences, except in infancy, the differences in prediction are very small ranging from 3mm to 1.17cm.The series extremity multipliers based upon height minus stem length calculations being nearly identical to the Paley extremity multipliers which allowed us to use these multipliers for the remainder of the study [See Table 1].

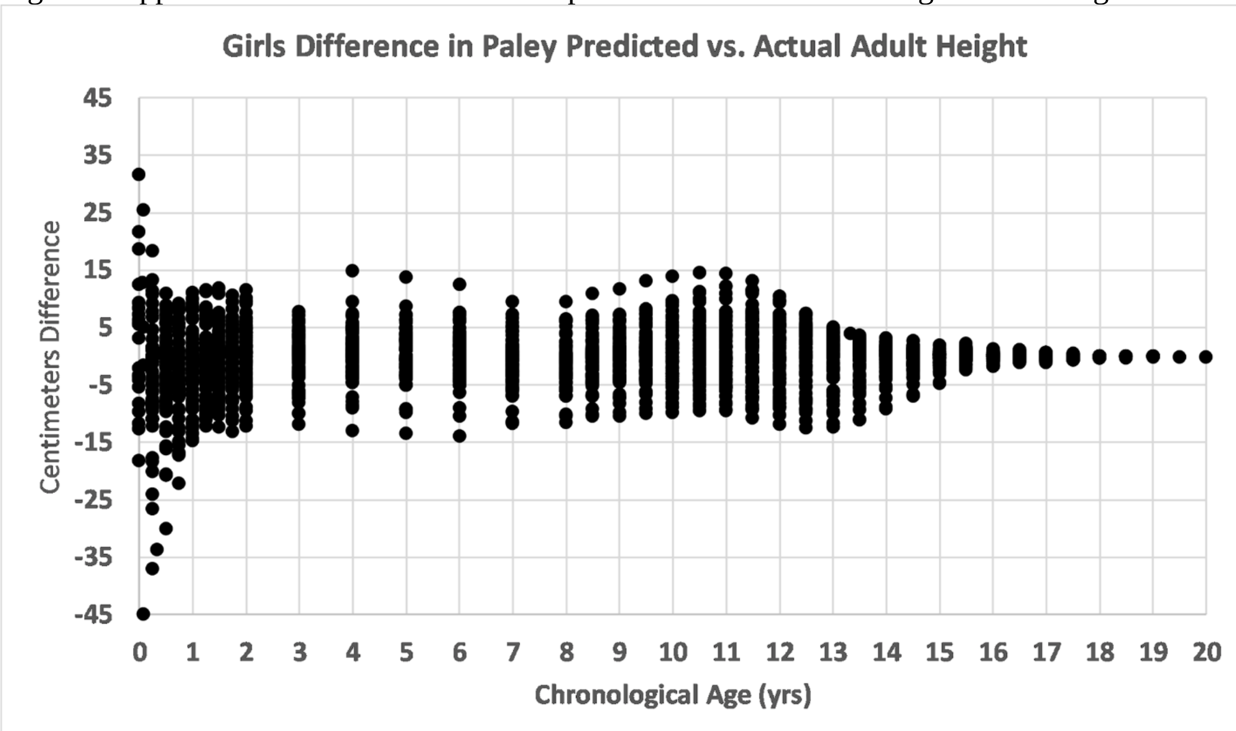
The error in prediction for between both the Paley chronological age determinations and the PHV based determinations varied by age with the absolute errors shown in figures Appendix 1A-D for height and figure appendix 2A-D for the lower extremities. Both methods demonstrate wide variations in infants but improve markedly with age.

The PHV multipliers

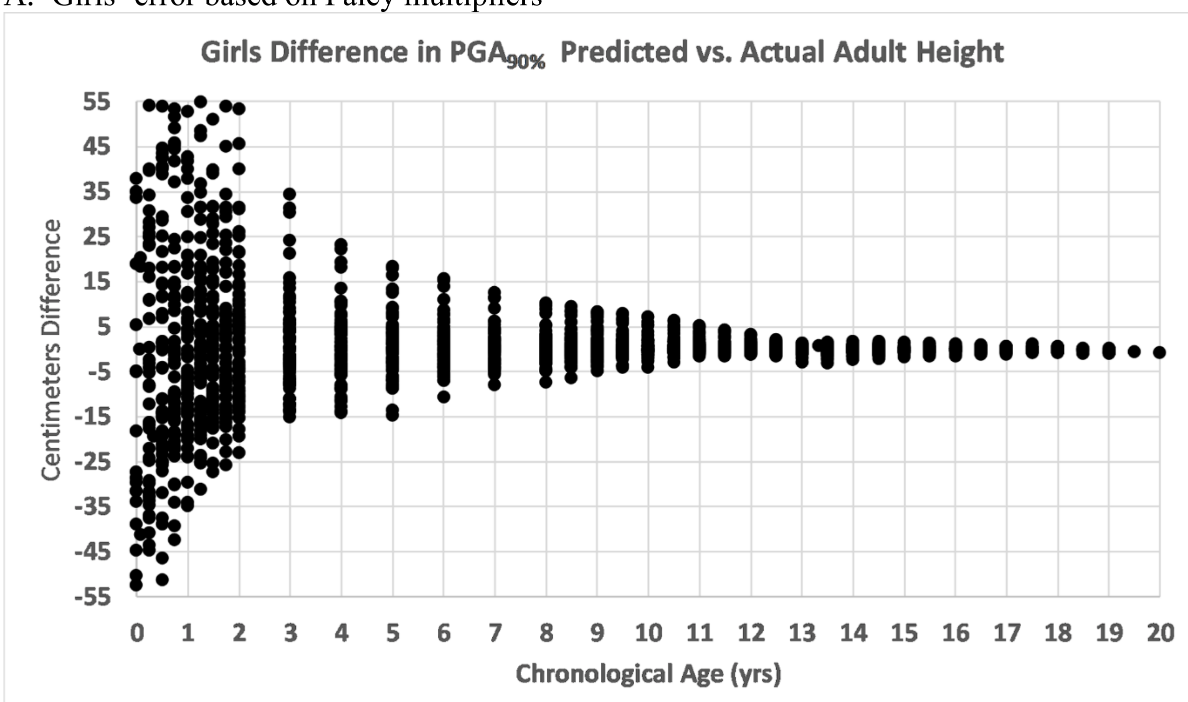
The PHV derived multipliers are shown numerically in in table 2 and manuscript figure 3 graphically.

Appendix Figures and Table:

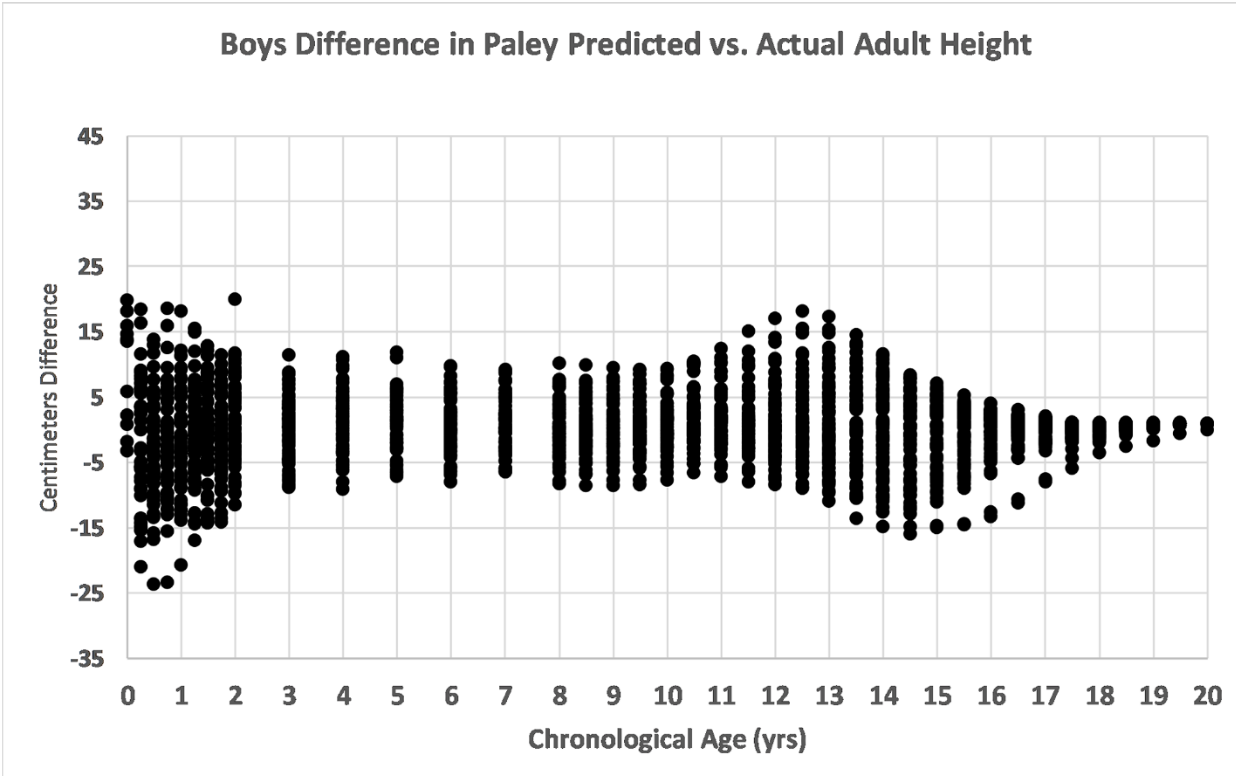
Figure 1 Appendix: Absolute error between predicted and true adult height for each age



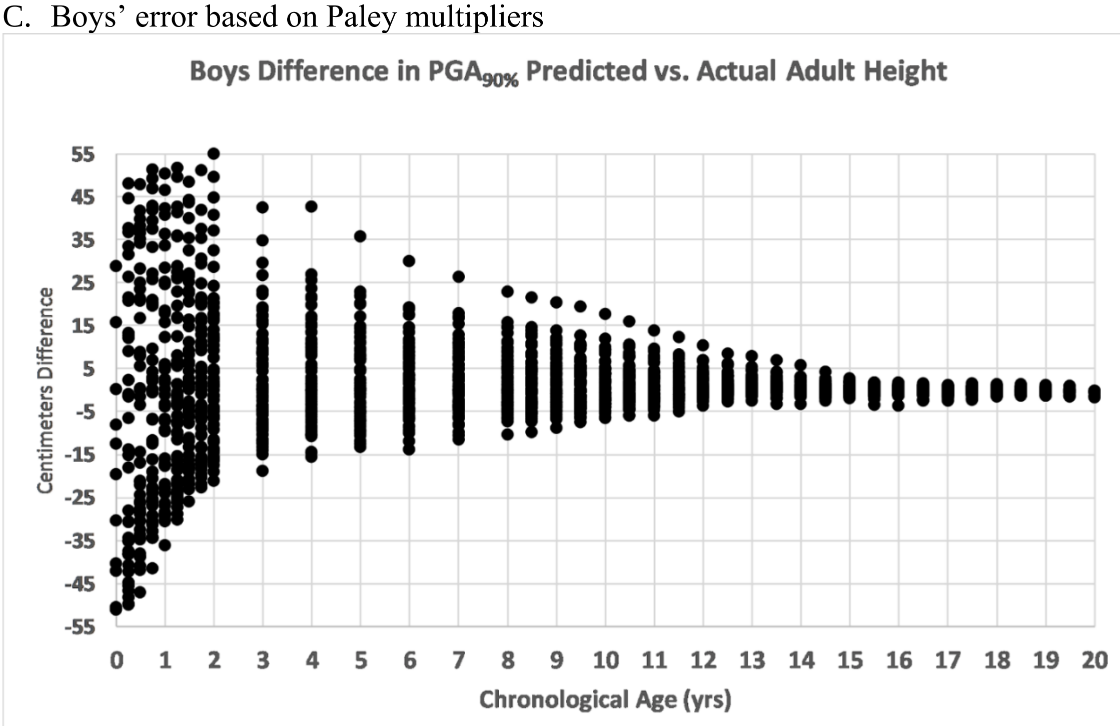
A. Girls' error based on Paley multipliers



B. Girls' error based on PHV derived multipliers

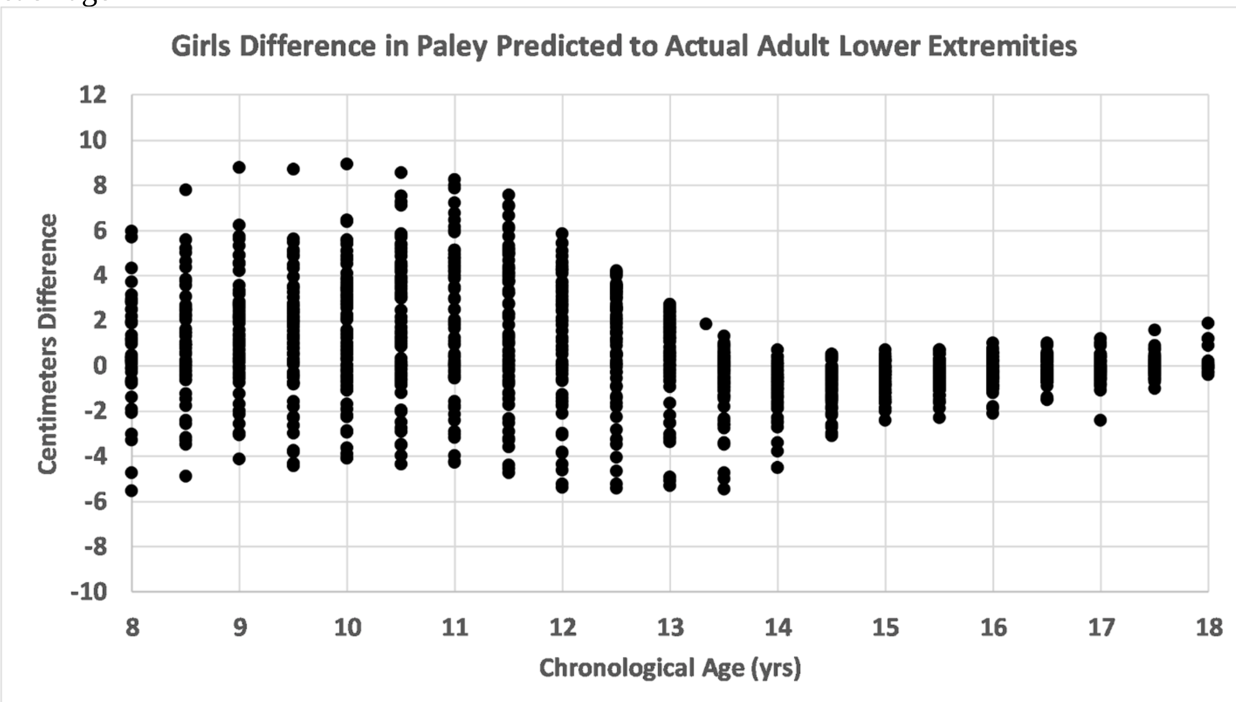


C. Boys' error based on Paley multipliers

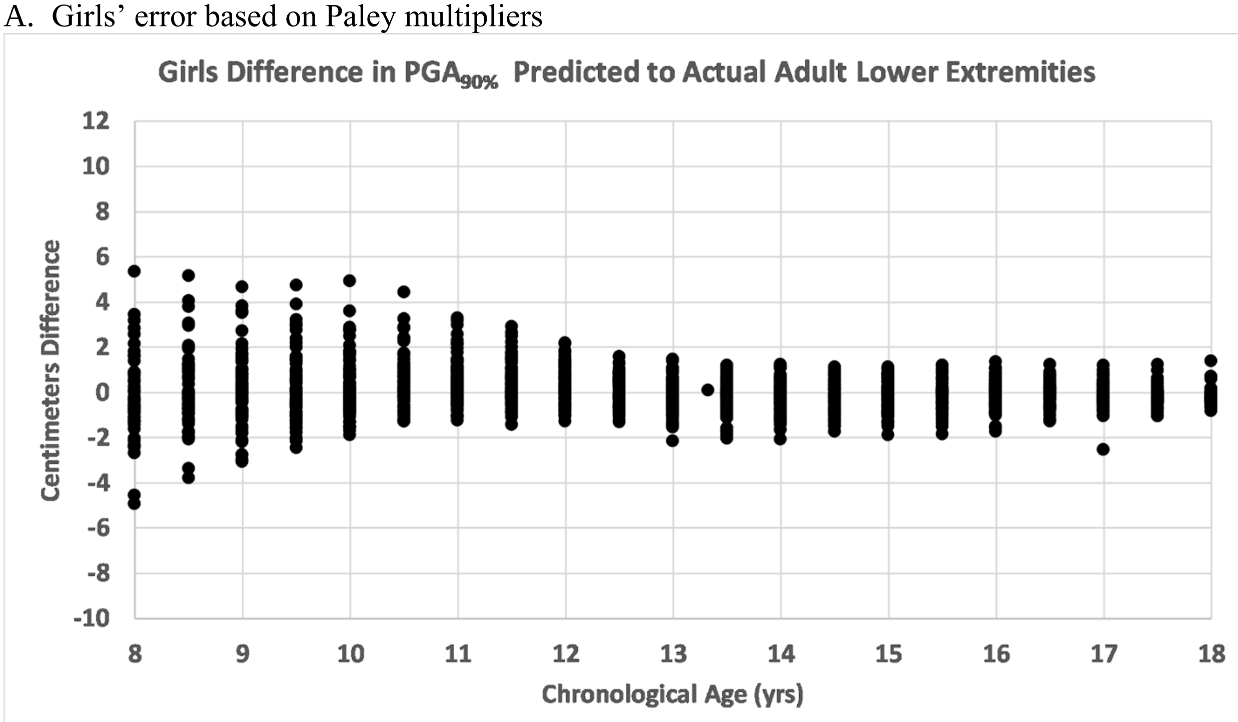


D. Boys' error based on PHV derived multipliers

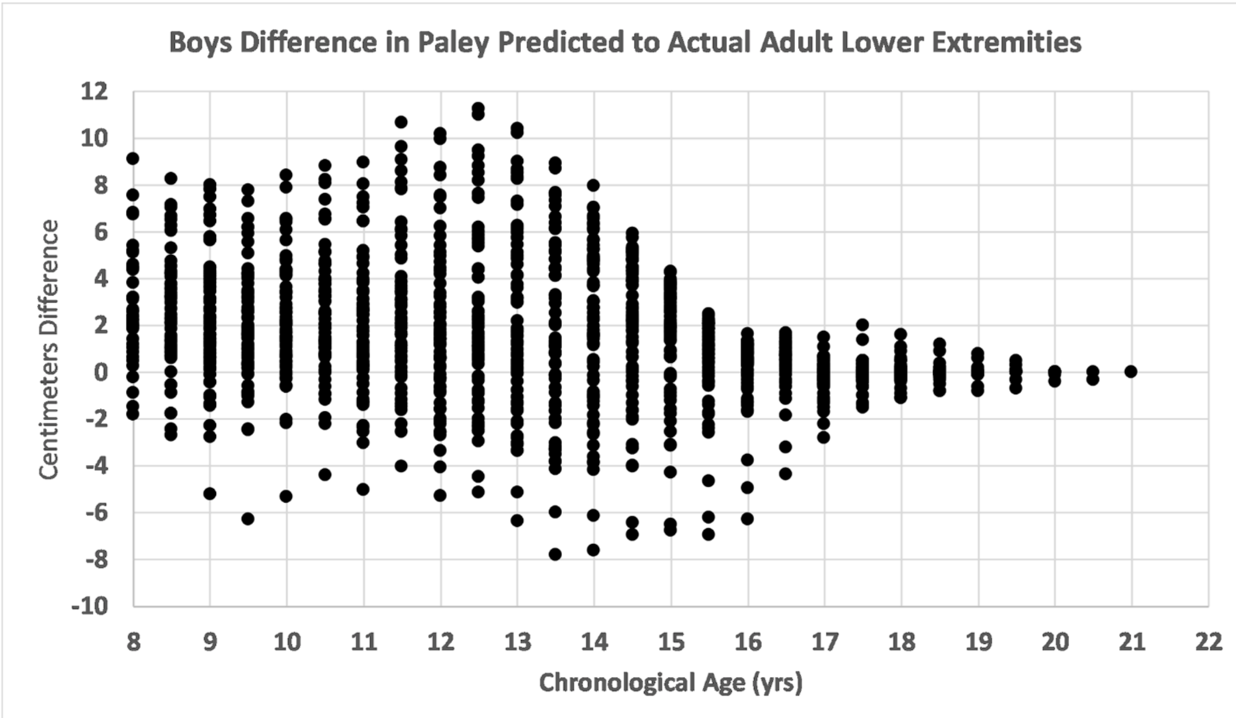
Figure 2 Appendix: Absolute error between predicted and true adult lower extremity length for each age



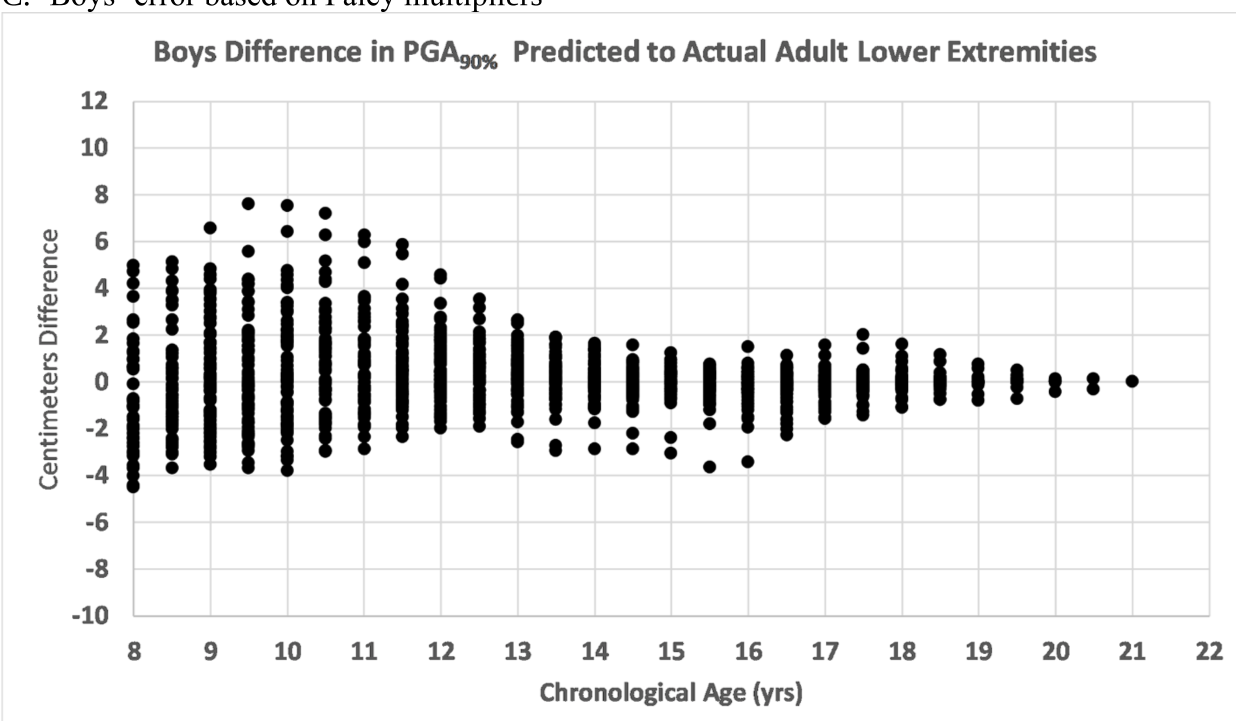
A. Girls' error based on Paley multipliers



B. Girls' error based on PHV derived multipliers



C. Boys' error based on Paley multipliers



D. Boys' error based on PHV derived multipliers

Appendix Table 1: Paley Height and Lower Extremity Multipliers compared to the series age-based multipliers

Age (years)	Paley Height Multiplier Girls	Series Height Multiplier Girls (median)	series n	p value	Max difference in Paley vs Series Prediction (cm)	Paley Height Multiplier Boys	Series Height Multiplier Boys (median)	series n	p value	Max difference in Paley vs Series Prediction (cm)	Paley Extremity Multiplier Girls	Series Extremity Multiplier Girls (median)	series n	p value	Max difference in Paley vs Series Prediction (cm)	Paley Extremity Multiplier Boys	Series Multiplier Extremity Boys (median)	series n	p value	Max difference in Paley vs Series Prediction (cm)
0	3.228	3.29	21	0.751		3.535	3.291	11	1.000											
0.25	2.839	2.759	49	0.001	5.27	2.908	2.931	40	0.123											
0.5	2.564	2.505	56	0.000	4.22	2.639	2.673	51	0.015	2.51										
0.75	2.397	2.341	58	0.000	4.27	2.462	2.497	54	0.022	2.86										
1	2.247	2.216	61	0.000	2.50	2.337	2.364	54	0.034	2.24										
1.25	2.136	2.12	67	0.025	1.40	2.239	2.256	60	0.086											
1.5	2.040	2.038	69	0.116		2.160	2.167	64	0.218											
1.75	1.968	1.965	70	0.045	0.28	2.088	2.098	66	0.213											
2	1.906	1.917	70	0.841		2.045	2.034	66	0.928											
3	1.736	1.735	70	0.027	0.13	1.859	1.853	66	0.556											
4	1.617	1.622	70	0.810		1.731	1.721	66	0.920											
5.0	1.513	1.514	70	0.677		1.627	1.614	66	0.982											
6.0	1.419	1.421	70	0.524		1.535	1.529	66	0.908											
7	1.348	1.341	70	0.009	0.91	1.455	1.451	66	0.944											
8	1.287	1.279	70	0.001	1.17	1.383	1.382	66	0.703		1.330	1.323	45	0.971		1.470	1.424	41	1.000	
8.5	1.256	1.254	70	0.026	0.37	1.351	1.352	66	0.531		1.290	1.276	56	0.999		1.420	1.381	56	1.000	
9	1.231	1.229	70	0.112		1.322	1.323	66	0.504		1.260	1.232	69	1.000		1.380	1.346	66	1.000	
9.5	1.205	1.207	70	0.445		1.298	1.296	66	0.748		1.220	1.200	70	1.000		1.340	1.312	66	1.000	
10	1.179	1.183	70	0.536		1.278	1.271	66	0.986		1.190	1.166	70	1.000		1.310	1.346	66	1.000	
10.5	1.157	1.16	70	0.826		1.260	1.247	76	1.000		1.160	1.133	70	1.000		1.280	1.245	66	1.000	

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11	1.131	1.135	70	0.897		1.235	1.227	66	0.997		1.130	1.103	70	1.000		1.240	1.215	66	1.000	
11.5	1.101	1.108	70	0.850		1.210	1.206	66	0.955		1.100	1.070	70	1.000		1.220	1.186	66	1.000	
12.0	1.072	1.082	70	0.723		1.186	1.185	66	0.885		1.070	1.043	70	1.000		1.180	1.159	66	1.000	
12.5	1.050	1.059	70	0.469		1.161	1.162	66	0.800		1.050	1.027	70	1.000		1.160	1.132	66	1.000	
13	1.035	1.04	70	0.159		1.135	1.140	66	0.677		1.030	1.018	70	0.951		1.130	1.106	66	1.000	
13.5	1.024	1.027	69	0.040	0.55	1.106	1.109	66	0.328		1.010	1.012	69	0.000	0.20	1.100	1.082	66	1.000	
14.0	1.017	1.019	70	0.083		1.081	1.078	66	0.220		1.000	1.010	70	0.000	0.86	1.080	1.059	66	1.000	
14.5	1.012	1.013	70	0.057		1.056	1.054	66	0.051	0.45	1.000	1.008	70	0.000	0.68	1.060	1.039	66	1.000	
15	1.008	1.008	70	0.004	0.08	1.044	1.032	66	0.345		1.000	1.006	70	0.000	0.51	1.040	1.023	66	1.000	
15.5	1.006	1.009	70	0.994		1.030	1.023	66	0.262		1.000	1.006	70	0.000	0.50	1.020	1.013	66	0.992	
16	1.004	1.004	70	0.019	0.03	1.021	1.014	66	0.361		1.000	1.004	70	0.498		1.010	1.008	66	0.890	
16.5	1.003	1.004	71	0.982		1.014	1.010	66	0.332		1.000	1.003	70	0.002	0.23	1.010	1.004	66	1.000	
17	1.002	1.002	70	0.418		1.010	1.007	66	0.561		1.000	1.001	70	0.030	0.12	1.000	1.002	66	0.025	0.19
17.5						1.006	1.004	66	0.379		1.000	1.001	67	0.267		1.000	1.001	66	0.229	
18						1.005	1.001	66	0.997		1.000	1.000	59	0.935		1.000	1.000	66	0.512	
18.5						1.005	1.002	40	0.999							1.000	1.000	40	0.460	
19						1.005	1.002	34	1.000							1.000	1.000	33	0.434	
19.5						1.005	1.000	20	1.000							1.000	1.000	20	0.529	
20						1.005	1.000	9	1.000							1.000	1.000	9	0.104	
20.5						1.005	1.002	2	0.983											

Appendix Table 1: Comparison between the Paley and the Berkeley series age-based multipliers of height and lower extremities (height minus stem length). Statistical differences are shaded. For those with statistical difference, the absolute difference in prediction (cm) is shown. For each of those with differences, except in infancy, the differences are very small ranging from 3mm to 1.17cm.

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Appendix Table 2: Peak height timing (PHV) derived multipliers for boys and girls for height, stem length (sitting height), and limbs (lower extremities as described in the methods).

	PHV Derived Multipliers					
PHV timing	Height		Stem		Limb	
	Girls	Boys	Girls	Boys	Girls	Boys
-8	1.690	1.576	1.445	1.461	1.632	1.602
-7.5	1.625	1.535	1.425	1.437	1.599	1.562
-7	1.570	1.499	1.407	1.416	1.565	1.523
-6.5	1.519	1.458	1.388	1.396	1.531	1.486
-6	1.472	1.420	1.369	1.374	1.494	1.444
-5.5	1.425	1.388	1.349	1.350	1.458	1.410
-5	1.390	1.359	1.330	1.326	1.425	1.381
-4.5	1.357	1.327	1.311	1.304	1.389	1.350
-4	1.326	1.302	1.291	1.284	1.349	1.317
-3.5	1.298	1.275	1.275	1.269	1.312	1.281
-3	1.269	1.252	1.256	1.257	1.281	1.249
-2.5	1.241	1.230	1.237	1.241	1.244	1.218
-2	1.216	1.208	1.218	1.227	1.211	1.192
-1.5	1.191	1.188	1.200	1.210	1.180	1.163
-1	1.166	1.166	1.185	1.193	1.148	1.137
-0.5	1.139	1.140	1.162	1.172	1.116	1.107
0	1.111	1.111	1.138	1.143	1.084	1.078
0.5	1.083	1.081	1.111	1.111	1.057	1.051
1	1.058	1.055	1.084	1.083	1.033	1.029
1.5	1.039	1.037	1.061	1.060	1.017	1.012
2	1.027	1.023	1.041	1.041	1.011	1.004
2.5	1.019	1.015	1.028	1.030	1.008	1.001
3	1.013	1.010	1.018	1.020	1.006	1.001
3.5	1.009	1.007	1.011	1.013	1.006	1.000
4	1.006	1.004	1.008	1.008	1.004	1.000