Supplementary Table S3. Ratio of Mean Impacts per Game at Multiple PRLA and PRRA Thresholds

Threshold (g)	*Ratio of mean impacts per game*	*Lower 95% CL*	*Upper 95% CL*	*Uncorrected* p *value*	*Bonferroni Lower 95% CL*	*Bonferroni Upper 95% CL*	*Bonferroni* p *value*
High school football vs. college football							
10	0.59	0.34	1.03	0.062	0.28	1.24	0.369
20	0.61	0.35	1.08	0.089	0.29	1.31	0.534
30	0.57	0.32	1.02	0.059	0.26	1.25	0.356
40	0.54	0.3	0.97	0.039	0.24	1.19	0.233
50	0.48	0.26	0.87	0.016	0.21	1.07	0.095
60	0.47	0.26	0.87	0.016	0.21	1.07	0.094
70	0.43	0.22	0.84	0.014	0.18	1.06	0.083
80	0.47	0.23	0.95	0.034	0.18	1.21	0.206
Global test: HF vs. CF		DF = 8		Wald statistic = 18.6		$p = 0.017$	

Threshold (rad/sec^2)	*Ratio of mean impacts per game*	*Lower 95% CL*	*Upper 95% CL*	*Uncorrected* p *value*	*Bonferroni Lower 95% CL*	*Bonferroni Upper 95% CL*	*Bonferroni* p *value*
0	0.59	0.34	1.03	0.062	0.28	1.24	0.369
2000	0.59	0.34	1.04	0.067	0.28	1.26	0.401
4000	0.61	0.34	1.08	0.087	0.28	1.31	0.524
6000	0.59	0.33	1.06	0.075	0.27	1.29	0.451
8000	0.57	0.31	1.05	0.069	0.25	1.29	0.413
10000	0.51	0.27	0.97	0.041	0.22	1.22	0.248
12000	0.53	0.25	1.10	0.087	0.20	1.41	0.523
14000	0.47	0.20	1.10	0.082	0.15	1.47	0.493
Global test: HF vs. CF		DF = 8		Wald statistic = 27.6		$p < 0.001$	

Threshold (g)	*Ratio of mean impacts per game*	*Lower 95% CL*	*Upper 95% CL*	*Uncorrected* p *value*	*Bonferroni Lower 95% CL*	*Bonferroni Upper 95% CL*	*Bonferroni* p *value*
College lacrosse vs. college football							
10	0.47	0.30	0.76	0.002	0.25	0.89	0.010
20	0.32	0.19	0.53	<0.001	0.16	0.63	<0.001
30	0.20	0.10	0.41	<0.001	0.08	0.52	<0.001
40	0.13	0.07	0.25	<0.001	0.06	0.31	<0.001
50	0.09	0.05	0.18	<0.001	0.04	0.23	<0.001
60	0.08	0.03	0.24	<0.001	0.02	0.34	<0.001
70	0.09	0.03	0.25	<0.001	0.02	0.35	<0.001
80	0.10	0.02	0.43	0.002	0.01	0.71	0.012
Global test: CL vs. CF		DF = 8		Wald statistic = 2025.4		$p < 0.001$	

Threshold (rad/sec^2)	*Ratio of mean impacts per game*	*Lower 95% CL*	*Upper 95% CL*	*Uncorrected* p *value*	*Bonferroni Lower 95% CL*	*Bonferroni Upper 95% CL*	*Bonferroni* p *value*
0	0.47	0.30	0.76	0.002	0.25	0.89	0.010
2000	0.36	0.24	0.54	<0.001	0.21	0.62	<0.001
4000	0.25	0.14	0.45	<0.001	0.12	0.55	<0.001
6000	0.20	0.10	0.39	<0.001	0.08	0.50	<0.001
8000	0.17	0.07	0.39	<0.001	0.06	0.51	<0.001
10000	0.16	0.06	0.39	<0.001	0.05	0.54	<0.001
12000	0.11	0.05	0.26	<0.001	0.03	0.34	<0.001
14000	0.03	0.00	0.15	<0.001	0.00	0.28	<0.001
Global test: CL vs. CF		DF = 8		Wald statistic = 264.1		$p < 0.001$	

Threshold (g)	*Ratio of mean impacts per game*	*Lower 95% CL*	*Upper 95% CL*	*Uncorrected* p *value*	*Bonferroni Lower 95% CL*	*Bonferroni Upper 95% CL*	*Bonferroni* p *value*
College soccer vs. college football							
10	1.28	0.59	2.80	0.531	0.45	3.67	1.000
20	0.49	0.30	0.78	0.003	0.26	0.92	0.017

(*continued*)

SUPPLEMENTARY TABLE S3. (CONTINUED)

Threshold (g)	*Ratio of mean impacts per game*	*Lower 95% CL*	*Upper 95% CL*	*Uncorrected* p *value*	*Bonferroni Lower 95% CL*	*Bonferroni Upper 95% CL*	*Bonferroni* p *value*
30	0.37	0.19	0.70	0.003	0.15	0.88	0.015
40	0.30	0.13	0.68	0.004	0.10	0.90	0.023
50	0.19	0.09	0.42	<0.001	0.06	0.55	<0.001
60	0.16	0.08	0.30	<0.001	0.07	0.37	<0.001
70	0.19	0.10	0.37	<0.001	0.08	0.46	<0.001
80	0.13	0.04	0.45	0.001	0.02	0.69	0.008
Global test: CS vs CF		DF = 8		Wald statistic = 408.0		$p < 0.001$	

Threshold (rad/sec^2)	*Ratio of mean impacts per game*	*Lower 95% CL*	*Upper 95% CL*	*Uncorrected* p *value*	*Bonferroni Lower 95% CL*	*Bonferroni Upper 95% CL*	*Bonferroni* p *value*
0	1.28	0.59	2.80	0.531	0.45	3.67	1.000
2000	0.86	0.39	1.87	0.698	0.30	2.45	1.000
4000	0.47	0.26	0.85	0.013	0.22	1.05	0.077
6000	0.35	0.18	0.68	0.002	0.15	0.85	0.010
8000	0.24	0.13	0.46	<0.001	0.10	0.57	<0.001
10000	0.20	0.09	0.43	<0.001	0.07	0.57	<0.001
12000	0.14	0.05	0.38	<0.001	0.04	0.54	0.001
14000	0.08	0.03	0.21	<0.001	0.02	0.29	<0.001
Global test: CS vs. CF		DF = 8		Wald statistic = 233.1		$p < 0.001$	

Threshold (g)	*Ratio of mean impacts per game*	*Lower 95% CL*	*Upper 95% CL*	*Uncorrected* p *value*	*Bonferroni Lower 95% CL*	*Bonferroni Upper 95% CL*	*Bonferroni* p *value*
College Lacrosse vs. High School Football							
10	0.80	0.46	1.39	0.433	0.38	1.68	1.000
20	0.52	0.30	0.88	0.015	0.25	1.06	0.090
30	0.36	0.18	0.73	0.004	0.14	0.93	0.026
40	0.25	0.14	0.45	<0.001	0.11	0.55	<0.001
50	0.19	0.10	0.37	<0.001	0.08	0.46	<0.001
60	0.18	0.06	0.49	0.001	0.04	0.70	0.006
70	0.21	0.08	0.56	0.002	0.06	0.79	0.011
80	0.21	0.05	0.90	0.035	0.03	1.48	0.212
Global test: CL vs. HF		DF = 8		Wald statistic = 1333.9		$p < 0.001$	

Threshold (rad/sec^2)	*Ratio of mean impacts per game*	*Lower 95% CL*	*Upper 95% CL*	*Uncorrected* p *value*	*Bonferroni Lower 95% CL*	*Bonferroni Upper 95% CL*	*Bonferroni* p *value*
0	0.80	0.46	1.39	0.433	0.38	1.68	1.000
2000	0.60	0.38	0.96	0.033	0.32	1.13	0.196
4000	0.42	0.23	0.75	0.003	0.19	0.91	0.019
6000	0.34	0.18	0.64	0.001	0.14	0.80	0.005
8000	0.30	0.14	0.65	0.002	0.10	0.85	0.013
10000	0.31	0.13	0.71	0.006	0.10	0.95	0.034
12000	0.20	0.10	0.42	<0.001	0.08	0.53	<0.001
14000	0.05	0.01	0.29	0.001	0.01	0.51	0.004
Global test: CL vs. HF		DF = 8		Wald statistic = 232.4		$p < 0.001$	

Threshold (g)	*Ratio of mean impacts per game*	*Lower 95% CL*	*Upper 95% CL*	*Uncorrected* p *value*	*Bonferroni Lower 95% CL*	*Bonferroni Upper 95% CL*	*Bonferroni* p *value*
College soccer vs. high school football							
10	2.17	0.94	5.00	0.068	0.71	6.67	0.407
20	0.80	0.48	1.31	0.371	0.41	1.56	1.000
30	0.64	0.33	1.25	0.192	0.26	1.57	1.000
40	0.56	0.26	1.23	0.151	0.19	1.62	0.903

(*continued*)

SUPPLEMENTARY TABLE S3. (CONTINUED)

Threshold (g)	*Ratio of mean impacts per game*	*Lower 95% CL*	*Upper 95% CL*	*Uncorrected* p *value*	*Bonferroni Lower 95% CL*	*Bonferroni Upper 95% CL*	*Bonferroni* p *value*
50	0.40	0.18	0.86	0.019	0.14	1.12	0.112
60	0.33	0.18	0.61	<0.001	0.15	0.75	0.002
70	0.45	0.25	0.82	0.009	0.20	1.01	0.055
80	0.28	0.08	0.94	0.039	0.05	1.43	0.236
Global test: CS vs. HF		DF = 8		Wald statistic = 148.3		$p < 0.001$	
Threshold (rad/sec^2)	*Ratio of mean impacts per game*	*Lower 95% CL*	*Upper 95% CL*	*Uncorrected* p *value*	*Bonferroni Lower 95% CL*	*Bonferroni Upper 95% CL*	*Bonferroni* p *value*
0	1.71	0.72	4.04	0.224	0.51	5.68	1.000
2000	1.15	0.50	2.64	0.749	0.36	3.67	1.000
4000	0.62	0.31	1.24	0.175	0.23	1.63	1.000
6000	0.46	0.21	0.97	0.042	0.16	1.31	0.335
8000	0.32	0.15	0.68	0.003	0.12	0.91	0.024
10000	0.31	0.14	0.66	0.003	0.10	0.90	0.021
12000	0.23	0.10	0.52	<0.001	0.08	0.71	0.003
14000	0.14	0.05	0.35	<0.001	0.04	0.50	<0.001
Global test: CS vs. HF		DF = 8		Wald statistic = 247.5		$p < 0.001$	
Threshold (g)	*Ratio of mean impacts per game*	*Lower 95% CL*	*Upper 95% CL*	*Uncorrected* p *value*	*Bonferroni Lower 95% CL*	*Bonferroni Upper 95% CL*	*Bonferroni* p *value*
College lacrosse vs. college soccer							
10	0.37	0.17	0.80	0.012	0.13	1.05	0.073
20	0.65	0.42	1.00	0.048	0.36	1.16	0.291
30	0.56	0.26	1.20	0.133	0.20	1.56	0.799
40	0.44	0.19	0.99	0.048	0.15	1.32	0.288
50	0.49	0.21	1.13	0.093	0.16	1.50	0.560
60	0.53	0.19	1.51	0.234	0.13	2.17	1.000
70	0.47	0.18	1.22	0.123	0.13	1.70	0.735
80	0.76	0.13	4.45	0.758	0.07	8.22	1.000
Global test: CL vs. CS		DF = 8		Wald statistic = 2437.1		$p < 0.001$	
Threshold (rad/sec^2)	*Ratio of mean impacts per game*	*Lower 95% CL*	*Upper 95% CL*	*Uncorrected* p *value*	*Bonferroni Lower 95% CL*	*Bonferroni Upper 95% CL*	*Bonferroni* p *value*
0	0.25	0.10	0.64	0.004	0.07	0.92	0.030
2000	0.34	0.13	0.88	0.026	0.09	1.28	0.209
4000	0.51	0.22	1.23	0.135	0.15	1.73	1.000
6000	0.57	0.23	1.44	0.237	0.16	2.07	1.000
8000	0.69	0.27	1.75	0.438	0.19	2.53	1.000
10000	0.78	0.28	2.19	0.638	0.19	3.29	1.000
12000	0.94	0.33	2.64	0.903	0.22	3.97	1.000
14000	1.22	0.47	3.22	0.680	0.32	4.71	1.000
Global test: CL vs. CS		DF = 8		Wald statistic = 423.7		$p < 0.001$	

For each pairwise team comparison and each PRLA or PRRA threshold, the following information is provided: ratio of mean impacts per game, uncorrected and Bonferroni corrected 95% confidence limits (95% CL), and uncorrected and Bonferroni corrected *p* values. For each PRLA and PRRA, pairwise global test degrees of freedom (DF), Wald statistic, and *p* values are also provided.

PRLA, peak resultant linear acceleration; PRRA, peak resultant rotational acceleration; HF, high school football; CF, college football; CL, college lacrosse; CS, college soccer.