

Table 1: Overview of normative values in power sports.

Study	Sport	Sex	Age group	Number of subjects	Side	Medial		Inferolateral		Superolateral		Overall	
						A	SD	A	SD	A	SD	A	SD
Silva et al. (2022)	Crossfit	Both	Adults	50	DOM	110.3	10.5	72.1	17.4	53.0	10.2	78.4	10.2
Silva et al. (2022)	Crossfit	Both	Adults	50	NDOM	112	10.6	73.7	15.3	55.5	10.8	80.5	9.7
Abdelraof et al. (2022)	Oly. weight.	M	Adults	50	Left							80.46	9.97
Abdelraof et al. (2022)	Oly. weight.	M	Adults	50	Right							82.47	10.68
Gorman et al. (2012)	Criterion WT	M	Adults	51	Average	97.2	9.6	84.2	9.1	70.9	9.6	85.1	8.0
Gorman et al. (2012)	Criterion WT	F	Adults	45	Average	95.2	10.6	82.7	10.1	70.4	9.3	83.9	8.7
Gorman et al. (2012)	Criterion WT	M	Adults	51	Left							82.3	
Gorman et al. (2012)	Criterion WT	M	Adults	51	Right							81.7	
Gorman et al. (2012)	Criterion WT	F	Adults	45	Left							80.7	
Gorman et al. (2012)	Criterion WT	F	Adults	45	Right							80.7	
Guirelli et al. (2021)	Criterion WT	M	Adults	24	Average	85.0*	11.0*	67.0*	10.0*	39.0*	11.0*		
Guirelli et al. (2021)	Criterion WT	F	Adults	25	Average	86.0*	9.0*	64.0*	12.0*	36.0*	10.0*		
Salo and Chaconas (2017)	Criterion WT	Both	Adults	11	Left	100.55	5.69	87.48	6.35	67.18	7.06	86.72	4.89
Salo and Chaconas (2017)	Criterion WT	Both	Adults	11	Right	100.74	4.83	95.56	7.51	65.58	5.86	87.29	3.85

*modified version was used; M – male; F – female; DOM – dominant; NDOM – nondominant; A – average; SD – standard deviation; WT – weight training.

Table 2: Overview of normative values for swimming.

Study	Sport	Sex	Age / level	Number of subjects	Side	Medial		Inferolateral		Superolateral		Overall	
						A	SD	A	SD	A	SD	A	SD
Bullock et al. (2017)	Swimming	M	High school	43	Average	101.63	7.45	101.0		75.0			
Bullock et al. (2017)	Swimming	M	Collegiate	34	Average	105.15	7.89	98.0		79.0			
Bullock et al. (2017)	Swimming	F	High school	27	Average	92.06	8.23	93.0		72.0			
Bullock et al. (2017)	Swimming	F	Collegiate	36	Average	101.3	7.19	97.5		76.0			
Butler. Arms et al. (2014)	Swimming	M	Adults	43	Average	100.0	8.8	89.8	10.8	74.9	9.7	88.3	8.9
Butler. Arms et al. (2014)	Swimming	F	Adults	54	Average	92.5	8.1	85.6	10.3	72.1	11.2	83.4	8.3
Schweirtz et al. (2020)	Swimming	Both	Adolescents	37	Right	104.0	8.4	102.2	13.5	83.3	9.3	96.0	8.1
Schweirtz et al. (2020)	Swimming	Both	Adolescents	37	Left	102.3	6.8	101.8	12.9	79.0	9.4	94.8	9.0

M – male; F – female; A – average; SD – standard deviation.

Table 3: Overview of normative values for sports with rackets, bats and sticks.

Study	Sport	Sex	Age / level	Number of subjects	Side	Medial		Inferolateral		Superolateral		Overall	
						A	SD	A	SD	A	SD	A	SD
Bullock et al. (2018)	Baseball	NG	Adults	30	DOM	105.0		101.5		71.0		94.0	
Bullock et al. (2018)	Baseball	NG	Adults	30	NDOM	103.0		102.0		75.0		95.0	
Butler, Myers et al. (2014)	Baseball	M	Adolescents	48	Average	99.0		90.0		71.0		87.1	8.6
Chasse et al. (2018)	Baseball	M	Adults	21	DOM							94.1	10.9
Chasse et al. (2018)	Baseball	M	Adults	21	NDOM							94.7	9.4
Myers et al. (2017)	Baseball	M	Adolescents	24	Left	97.05	5.89	85.59	7.45	70.9	8.26	85.14	6.3
Myers et al. (2017)	Baseball	M	Adolescents	24	Right	97.04	7.1	85.29	8.39	73.08	8.76	84.51	5.4
Taylor et al. (2016)	Baseball	M	Adults	36	DOM	117.0	7.5	117.3	9.5	83.9	12.5	106.0	8.3
Taylor et al. (2016)	Baseball	M	Adults	36	NDOM	115.1	7.5	116.8	10.7	83.9	11.4	105.1	7.7
Singla and Hussain (2020)	Cricket	M	Adolescents	22	DOM	85.02	15.91	85.82	12.21	75.59	13.6	82.26	8.59
Singla and Hussain (2020)	Cricket	M	Adolescents	22	NDOM	85.06	16.2	84.5	12.01	74.31	11.8	81.29	8.76
Singla and Hussain (2020)	Cricket	M	Collegiate	19	DOM	92.22	10.79	91.44	13.42	74.3	7.03	85.99	7.87
Singla and Hussain (2020)	Cricket	M	Collegiate	19	NDOM	94.38	7.89	90.85	14.18	75.93	8.04	87.05	7.5
Singla and Hussain (2020)	Cricket	M	Professional	15	DOM	98.19	10.05	89.26	11.91	73.53	11.11	87.0	9.0
Singla and Hussain (2020)	Cricket	M	Professional	15	NDOM	96.1	10.91	90.37	9.83	73.83	9.06	86.8	6.7
Singla and Hussain (2018)	Cricket	M	14–17 years	26	DOM							87.3	7.66
Singla and Hussain (2018)	Cricket	M	14–17 years	26	NDOM							86.0	8.4
Singla and Hussain (2018)	Cricket	M	18–25 years	22	DOM							90.52	9.48
Singla and Hussain (2018)	Cricket	M	18–25 years	22	NDOM							91.38	8.73
Kryszak et al. (2019)	Golf	M	Adults	29	Average	110.0		100.0		84.0		98.0	

Study	Sport	Sex	Age / level	Number of subjects	Side	Medial		Inferolateral		Superolateral		Overall	
						A	SD	A	SD	A	SD	A	SD
Krysak et al. (2019)	Golf	M	Adults	207	Average	96.0		94.0		72.0		88.0	
Krysak et al. (2019)	Golf	M	Adolescents	129	Average	92.0		88.0		70.0		86.0	
Krysak et al. (2019)	Golf	M	Adolescents	53	Average	93.0		95.0		75.0		86.0	
Kokinda et al. (2018)	Hockey	NG	Seniors	18	Left	111.0		98.0		70.0		93.0	
Kokinda et al. (2018)	Hockey	NG	Seniors	18	Right	112.0		91.0		72.0		92.5	
Kokinda et al. (2018)	Hockey	NG	U20	15	Left	109.0		92.0		74.0		92.5	
Kokinda et al. (2018)	Hockey	NG	U20	15	Right	110.0		94.0		77.0		93.0	
Kokinda et al. (2018)	Hockey	NG	U18	22	Left	88.0		84.0		73.0		81.5	
Kokinda et al. (2018)	Hockey	NG	U18	22	Right	89.0		83.0		73.0		82.0	
Kokinda et al. (2018)	Hockey	NG	U15	41	Left	103.0		87.7		86.0		92.0	
Kokinda et al. (2018)	Hockey	NG	U15	41	Right	104.0		88.0		84.0		92.5	
Kokinda et al. (2018)	Hockey	NG	U14	37	Left	95.0		93.0		72.0		86.0	
Kokinda et al. (2018)	Hockey	NG	U14	37	Right	97.0		93.0		70.0		85.6	
Kokinda et al. (2018)	Hockey	NG	U13	19	Left	92.0		89.0		66.0		81.5	
Kokinda et al. (2018)	Hockey	NG	U13	19	Right	93.0		88.0		65.0		81.5	
Taylor et al. (2016)	Lacross	M	Adults	26	DOM	108.4	8.8	106.0	12.6	80.1	10.6	98.1	7.9
Taylor et al. (2016)	Lacross	M	Adults	26	NDOM	108.2	7.5	108.7	13.6	81.7	13.2	99.6	8.7
Taylor et al. (2016)	Lacross	F	Adults	42	DOM	97.4	11.6	106.4	13.2	80.6	13.0	94.8	10.1
Taylor et al. (2016)	Lacross	F	Adults	42	NDOM	98.8	11.0	105.3	13.8	77.7	11.6	94.0	9.3
Biaggi et al. (2021)	Softball	F	Adults	23	DOM	85.5	9.0	48.8	8.9	67.7	10.9		
Biaggi et al. (2021)	Softball	F	Adults	23	NDOM	86.6	10.1	49.8	9.2	71.7	12.8		
Butler. Myers et al. (2014)	Softball	F	Adolescents	17	Average	98.0		92.0		69.0		86.3	8.4
Butler. Myers et al. (2014)	Softball and baseball	Both	Adolescents	65	DOM	99.0		90.0		70.0		86.6	8.1
Butler. Myers et al. (2014)	Softball and baseball	Both	Adolescents	65	NDOM	98.0		91.0		70.5		87.2	8.9

Study	Sport	Sex	Age / level	Number of subjects	Side	Medial		Inferolateral		Superolateral		Overall	
						A	SD	A	SD	A	SD	A	SD
Borms and Cools (2018)	Tennis	M	18–25 years	20	DOM	103.45	5.87	90.55	10.46	69.1	8.69	87.8	5.62
Borms and Cools (2018)	Tennis	M	26–33 years	6	DOM	105.17	8.16	94.7	11.88	75.64	10.51	91.83	5.73
Borms and Cools (2018)	Tennis	M	34–50 years	7	DOM	103.77	9.72	84.94	11.94	63.86	12.26	84.19	10.23
Borms and Cools (2018)	Tennis	M	18–25 years	20	NDOM	103.17	5.77	94.08	10.3	68.1	7.17	88.57	6.22
Borms and Cools (2018)	Tennis	M	26–33 years	6	NDOM	104.73	13.39	101.29	7.61	79.08	13.14	95.03	8.83
Borms and Cools (2018)	Tennis	M	34–50 years	7	NDOM	100.29	9.35	92.08	10.47	66.53	10.28	86.3	8.92
Borms and Cools (2018)	Tennis	F	18–25 years	14	DOM	98.86	9.95	83.23	12.44	63.24	15.34	81.78	11.47
Borms and Cools (2018)	Tennis	F	26–33 years	3	DOM	97.27	3.89	83.12	10.42	54.61	16.18	77.9	9.94
Borms and Cools (2018)	Tennis	F	34–50 years	19	DOM	95.94	7.31	79.14	13.92	62.23	14.35	79.1	10.36
Borms and Cools (2018)	Tennis	F	18–25 years	14	NDOM	96.43	11.26	83.63	12.02	64.98	14.09	82.27	11.02
Borms and Cools (2018)	Tennis	F	26–33 years	3	NDOM	101.56	3.02	85.59	9.82	59.63	15.93	81.5	9.2
Borms and Cools (2018)	Tennis	F	34–50 years	19	NDOM	96.46	6.61	78.81	15.43	63.48	15.45	79.94	10.89

NG – not given; M – male; F – female; DOM – dominant; NDOM – nondominant; A – average; SD – standard deviation.

Table 4: Overview of normative values for team sports with a ball.

Study	Sport	Sex	Age / level	Number of subjects	Side	Medial		Inferolateral		Superolateral		Composite	
						A	SD	A	SD	A	SD	A	SD
Bennet et al. (2022)	Aus. football	M	Adolescents	257	Left					79.1*	14.5*		
Bennet et al. (2022)	Aus. football	M	Adolescents	257	Left					79.0*	12.9*		
Arora et al. (2021)	Basketball	M	Adolescents and adults	9	DOM							89.39*	6.94*
Taylor et al. (2016)	Basketball	M	Adults	6	DOM	109.8	6.7	102.7	17.0	83.3	12.5	98.5	9.0
Taylor et al. (2016)	Basketball	M	Adults	6	NDOM	108.0	8.6	96.3	17.5	83.0	12.3	95.8	8.9
Taylor et al. (2016)	Basketball	F	Adults	15	DOM	105.0	10.9	91.9	23.1	81.9	10.0	93.0	11.4
Taylor et al. (2016)	Basketball	F	Adults	15	NDOM	105.5	13.3	89.9	20.6	82.3	16.2	92.5	11.4
Taylor et al. (2016)	Am. football	F	Adults	28	DOM	95.0	10.2	87.9	12.3	73.0	13.2	85.3	10.5
Taylor et al. (2016)	Am. football	F	Adults	28	NDOM	95.3	9.4	92.0	12.3	73.5	9.2	86.9	7.7
Taylor et al. (2016)	Volleyball	F	Adults	19	DOM	100.1	9.0	93.1	14.9	70.3	14.3	87.9	11.3
Taylor et al. (2016)	Volleyball	F	Adults	19	NDOM	99.7	9.3	96.8	12.1	75.9	16.0	90.8	10.6
Bauer et al. (2023)	Handball	Both	Adolescents	76	DOM	110.2	11.3	105.6	14.0	85.8	11.7	100.5	10.0
Bauer et al. (2023)	Handball	Both	Adolescents	76	NDOM	108.1	9.8	104.9	14.5	83.6	12.8	98.9	9.8
Bauer. Hagen. et al. (2020)	Handball	M	Adolescents	24	DOM	109.5	8.9	109.2	11.6	84.8	11.8	101.2	8.3
Bauer. Hagen et al. (2020)	Handball	M	Adolescents	24	NDOM	111.6	9.5	110.5	10.6	89.1	10.2	103.7	7.2
Bauer. Schedler. et al. (2020)	Handball	F	13 years	14	DOM	111.8	10.0	98.9	11.0	79.4	8.6	96.7	7.1
Bauer. Schedler et al. (2020)	Handball	F	13 years	14	NDOM	111.8	7.3	98.2	12.8	78.1	7.3	96.1	7.5
Bauer. Schedler et al. (2020)	Handball	M	14 years	24	DOM	112.4	7.6	108.8	12.1	82.5	8.8	101.1	7.5
Bauer. Schedler et al. (2020)	Handball	M	14 years	24	NDOM	112.7	6.9	106.9	12.2	79.9	9.4	99.7	7.1
Bauer. Schedler et al. (2020)	Handball	M	15 years	18	DOM	111.2	10.6	106.0	10.6	79.1	11.6	98.7	8.5

Study	Sport	Sex	Age / level	Number of subjects	Side	Medial		Inferolateral		Superolateral		Composite	
						A	SD	A	SD	A	SD	A	SD
Bauer. Schedler et al. (2020)	Handball	M	15 years	18	NDOM	110.6	10.6	104.8	8.1	80.0	10.0	98.3	7.3
Bauer. Panzer et al. (2021)	Handball	Both	13 years	25	DOM	109.2	11.5	99.1	10.6	77.8	11.0	95.4	8.8
Bauer. Panzer et al. (2021)	Handball	Both	13 years	25	NDOM	108.3	8.5	98.3	14.0	78.4	12.9	95.0	10.0
Bauer. Panzer et al. (2021)	Handball	Both	14 years	32	DOM	110.6	9	108.1	11.7	83.5	8.8	100.6	8.2
Bauer. Panzer et al. (2021)	Handball	Both	14 years	32	NDOM	109.5	8.7	104.5	13.1	80.4	9.8	98.0	8.4
Bauer. Panzer et al. (2021)	Handball	Both	15 years	49	DOM	107.7	9.4	99.3	11.8	84.7	11.6	97.2	8.4
Bauer. Panzer et al. (2021)	Handball	Both	15 years	49	NDOM	105.6	9.9	99.5	13.0	83.2	11.6	96.1	9.4
Bauer. Panzer et al. (2021)	Handball	Both	16 years	34	DOM	106.6	18.4	109.1	17.9	87.0	10.9	100.9	8.9
Bauer. Panzer et al. (2021)	Handball	Both	16 years	34	NDOM	105.3	17.1	107.2	18.2	85.2	11.4	99.2	10.0
Bauer. Panzer et al. (2021)	Handball	Both	17 years	33	DOM	97.9	19.9	105.9	19.3	85.1	12.5	96.3	8.5
Bauer. Panzer et al. (2021)	Handball	Both	17 years	33	NDOM	96.4	17.5	104.9	19.7	83.7	12.8	95.0	8.4
Bauer. Panzer et al. (2021)	Handball	Both	18 years	17	DOM	98.8	23.3	108.9	17.3	92.2	10.7	100.0	7.1
Bauer. Panzer et al. (2021)	Handball	Both	18 years	17	NDOM	97.2	23.6	107.4	16.4	89.0	10.9	97.9	8.0
Bauer. Schwiertz et al. (2021)	Handball (goalkeeper)	Both	Adolescents	25	Right	98.5	18.2	102.4	16.8	83.0	11.5	94.6	9.0
Bauer. Schwiertz et al. (2021)	Handball (goalkeeper)	Both	Adolescents	25	Left	97.7	19.0	104.8	16.0	80.2	13.7	94.2	9.7
Bauer. Schwiertz et al. (2021)	Handball (backcourt)	Both	Adolescents	99	Right	106.2	14.6	103.8	15.9	84.3	11.5	98.1	8.7
Bauer. Schwiertz et al. (2021)	Handball (backcourt)	Both	Adolescents	99	Left	104.7	13.6	102.1	16.6	82.6	11.4	96.4	8.3
Bauer. Schwiertz et al. (2021)	Handball (pivot)	Both	Adolescents	21	Right	107.2	18.8	105.5	17.3	84.3	13.8	99.0	8.3
Bauer. Schwiertz et al. (2021)	Handball (pivot)	Both	Adolescents	21	Left	105.3	16.5	103.4	16.5	82.3	9.7	97.0	8.2
Bauer. Schwiertz et al. (2021)	Handball (winger)	Both	Adolescents	51	Right	106.9	13.8	104.7	13.8	85.2	11.2	99.0	8.7
Bauer. Schwiertz et al. (2021)	Handball (winger)	Both	Adolescents	51	Left	105.6	12.9	103.8	14.4	84.3	12.7	97.9	9.2

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						A	SD	A	SD	A	SD	A	SD
Bauer et al., 2022	Handball	M	Adolescents and adults	32	DOM	111.2	9.6	103.1	14.9	82.4	14.2	98.9	10.9
Bauer et al. (2022)	Handball	M	Adolescents and adults	32	NDOM	110.2	9.3	104.3	13.7	81.2	13.0	98.6	10.1
Borms and Cools (2018)	Handball	M	18–25 years	24	DOM	102.23	5.63	91.82	12.63	71.08	10.93	88.12	8.03
Borms and Cools (2018)	Handball	M	26–33 years	9	DOM	107.21	8.3	91.68	6.83	64.22	10.93	87.7	7.82
Borms and Cools (2018)	Handball	M	34–50 years	4	DOM	111.47	7.72	103.12	7.87	72.72	9.03	95.77	7.68
Borms and Cools (2018)	Handball	M	18–25 years	24	NDOM	104.61	4.84	94.05	11.88	71.66	10.48	90.11	6.89
Borms and Cools (2018)	Handball	M	26–33 years	9	NDOM	105.9	6.09	96.16	10.08	66.78	13.47	89.61	8.04
Borms and Cools (2018)	Handball	M	34–50 years	4	NDOM	111.02	7.75	102.6	6.98	77.35	7.95	96.99	7.23
Borms and Cools (2018)	Handball	F	18–25 years	26	DOM	102.65	8.57	83.65	11.25	69.68	12.94	85.34	9.61
Borms and Cools (2018)	Handball	F	26–33 years	9	DOM	99.48	13.37	87.24	18.55	66.07	17.08	84.26	15.1
Borms and Cools (2018)	Handball	F	34–50 years	2	DOM	96.07	22.54	83.64	2.34	55.07	2.64	78.26	5.86
Borms and Cools (2018)	Handball	F	18–25 years	26	NDOM	100.55	6.66	85.13	11.27	68.53	12.73	84.97	9.28
Borms and Cools (2018)	Handball	F	26–33 years	9	NDOM	95.89	14.8	84.69	20.73	67.4	20.88	83.66	18.15
Borms and Cools (2018)	Handball	F	34–50 years	2	NDOM	97.19	3.1	92.63	0.41	55.01	8.28	82.54	4.97
Borms and Cools (2018)	Volleyball	M	18–25 years	19	DOM	104.21	5.3	93.65	12.93	72.14	9.58	90	7.48
Borms and Cools (2018)	Volleyball	M	26–33 years	11	DOM	101.12	3.62	95.19	10.1	73.34	7.4	89.89	5.27
Borms and Cools (2018)	Volleyball	M	34–50 years	6	DOM	100.39	2.15	90.84	7.8	65.58	11.95	85.6	2.21
Borms and Cools (2018)	Volleyball	M	18–25 years	19	NDOM	104.67	5.08	93.47	10.2	73.08	11.46	90.41	6.91
Borms and Cools (2018)	Volleyball	M	26–33 years	11	NDOM	102.21	2.74	95.68	10.84	71.52	9.12	89.8	5.74
Borms and Cools (2018)	Volleyball	M	34–50 years	6	NDOM	102.83	4.46	91.71	10.34	66.23	8.49	86.92	4.77
Borms and Cools (2018)	Volleyball	F	18–25 years	30	DOM	96.37	8.81	84.28	12.42	66.73	13.59	82.46	10.59
Borms and Cools (2018)	Volleyball	F	26–33 years	6	DOM	93.23	11.87	82.13	16.67	52.81	12.07	76.06	11.49
Borms and Cools (2018)	Volleyball	F	34–50 years	1	DOM	91.9		63.47		34.46		63.28	
Borms and Cools (2018)	Volleyball	F	18–25 years	30	NDOM	96.65	7.89	86.07	12.54	68.57	11.11	84.43	9.04
Borms and Cools (2018)	Volleyball	F	26–33 years	6	NDOM	91.02	10.94	82.51	11.28	56.38	15.46	77.49	9.23
Borms and Cools (2018)	Volleyball	F	34–50 years	1	NDOM	92.01		77.02		43.13		70.87	

Study	Sport	Sex	Age / level	Number of subjects	Side	Medial		Inferolateral		Superolateral		Composite	
						A	SD	A	SD	A	SD	A	SD
Saccol et al. (2022)	Handball	F	Adolescents and adults	61	DOM	91.32		61.37		50.32		67.67	
Saccol et al. (2022)	Volleyball	F	Adolescents and adults	38	DOM	81.78		62.69		41.42		61.97	
Contemori et al. (2018)	Volleyball	M	Adults	12	DOM	93.5		75.0		63.0			
Contemori et al. (2018)	Volleyball	M	Adults	12	NDOM	93.0		74.0		62.5			
Mendez-Rebolledo et al. (2021)	Volleyball	Both	Adults	40	Average	108.5	10.3	84.5	10.7	66.4	11.6		
Zarei et al. (2021)	Volleyball	M	Adolescents and adults	14	DOM							77.0	4.0
Mendez-Rebolledo et al. (2022)	Volleyball	Both	Adults	52	Average	105.2	9.5	80.8	11.8	65.5	10.1	83.8	8.4

*Modified version was used. M – male; F – female; DOM – dominant; NDOM – nondominant; A – average; SD – standard deviation.

Table 5: Overview of normative values for athletics and gymnastics.

Study	Sport	Sex	Age / level	Number of subject	Side	Medial		Inferolateral		Superolateral		Composite	
						A	SD	A	SD	A	SD	A	SD
Ruffe et al. (2019)	Athletics (cross)	M	Adolescents	68	Left	90.9	8.8	90.6	11.3	68.9	9.9	83.5	7.7
Ruffe et al. (2019)	Athletics (cross)	M	Adolescents	68	Right	91.3	9.2	89.7	9.9	68.5	10.6	83.2	8.2
Ruffe et al. (2019)	Athletics (cross)	F	Adolescents	80	Left	87.3	9.0	87.3	9.0	66.7	9.9	80.3	7.7
Ruffe et al. (2019)	Athletics (cross)	F	Adolescents	80	Right	85.5	9.8	85.5	9.8	65.4	9.3	79.8	8.0
Taylor et al. (2016)	Athletics (mixed)	M	Adults	29	DOM	107.4	9.3	106.3	13.2	83.6	12.3	99.1	9.0
Taylor et al. (2016)	Athletics (mixed)	M	Adults	29	NDOM	107.6	10.0	108.1	13.7	87.1	11.7	100.9	8.7
Taylor et al. (2016)	Athletics (mixed)	F	Adults	29	DOM	101.9	8.1	101.6	12.9	82.6	9.6	95.3	7.8
Taylor et al. (2016)	Athletics (mixed)	F	Adults	29	NDOM	105.5	9.1	100.9	10.5	79.8	13.2	95.2	8.7
Beyranvand et al. (2017)	Gymnastics	M	Children	30	DOM	94.73	2.4	85.07	2.52	71.6	3.29	83.8	2.52
Beyranvand et al. (2017)	Gymnastics	M	Children	30	NDOM	95.27	2.57	85.73	3.73	72.13	3.11	84.37	2.49

M – male; F – female; A – average; SD – standard deviation.

Table 6: Overview of normative values for martial arts.

Study	Sport	Sex	Age / level	Number of subject	Side	Medial		Inferolateral		Superolateral		Composite	
						A	SD	A	SD	A	SD	A	SD
Myers et al. (2017)	Wrestling	M	Adults	30	Left	107.59	11.04	96.89	13.08	71.93	12.08	92.14	9.6
Myers et al. (2017)	Wrestling	M	Adults	30	Right	106.99	10.54	93.98	11.68	73.92	15.14	91.3	9.7
Tabasi et al. (2022)	Wrestling (freestyle)	M	Adults	21	DOM							83.38	8.25
Tabasi et al. (2022)	Wrestling (Greco-Roman)	M	Adults	21	DOM							87.98	13.06

M – male; DOM – dominant; A – average; SD – standard deviation.

Table 7: Overview of normative values for army.

Study	Sport	Sex	Age / level	Number of subjects	Side	Medial		Inferolateral		Superolateral		Composite	
						A	SD	A	SD	A	SD	A	SD
Campbell et al. (2022)	Army	Both	Adults	398	Average							86.3	8.1
Gottlieb et al. (2018)	Army	F	Adults	167	Average							36.9*	5.9*
Teyhen et al. (2014)	Army	Both	Adults	247	Average							87.6	9.6
Teyhen et al. (2014)	Army	F	Adults	107	Average							84.9	9.1
Teyhen et al. (2014)	Army	M	Adults	140	Average							89.5	9.6
Westrick et al. (2012)	Army (students)	M	Adults	24	DOM							86.5	8.1
Westrick et al. (2012)	Army (students)	M	Adults	24	NDOM							88.1	7.4
Westrick et al. (2012)	Army (students)	F	Adults	6	DOM							82.9	9.2
Westrick et al. (2012)	Army (students)	F	Adults	6	NDOM							85.2	11.7

*normalised based on body height. not arm length; M – male; F – female; DOM – dominant; NDOM – nondominant; A – average; SD – standard deviation.

Table 8: Overview of normative values for other sports.

Study	Sport	Sex	Age / level	Number of subjects	Side	Medial		Inferolateral		Superolateral		Composite	
						A	SD	A	SD	A	SD	A	SD
Pulido et al. (2023)	Athletes (students)	Both	Adults	37	Average			81	10.6			86.3	12
Jha et al. (2022)	Athletes	Both	Adults	29	Average							76.8	9.4
Nuhmani (2022)	Athletes	M	Adults	61	Average							83.32	14.6
Yidiz et al. (2022)	High impact sports	M	Adults	11	Nonoperated							71.4	9.3
Yidiz et al. (2022)	Overhead sports with sudden stops	M	Adults	11	Nonoperated							72.4	5.2
Yidiz et al. (2022)	Overhead sports	M	Adults	10	Nonoperated							74.7	6.0
Kim et al. (2020)	Overhead sports	Both	Adults	33	DOM	116.31*	5.41*	83.64*	10.79*	66.47*	8.92*		
Borms et al. (2016)	Overhead sports	Both	Adults	29	DOM	101.22	7.32	96.09	12.07	73.12	10.24	90.14	7.56
Borms et al. (2016)	Overhead sports	Both	Adults	29	NDOM	101.07	6.16	96.35	10.17	71.54	10.26	89.65	6.02
Heienbaugh et al. (2015)	Recreational	Both	Adults	34	DOM							90.0	10.0
Heienbaugh et al. (2015)	Recreational athletes	Both	Adults	34	NDOM							91.0	9.0
Schwartzkopf-Pfifer et al. (2021)	Active individuals	F	Adults	12	Left					66.3*	7.1*		
Schwartzkopf-Pfifer et al. (2021)	Active individuals	F	Adults	12	Right					63.0*	9.8*		

* results were not normalised based on arm length; M – male; F – female; DOM – dominant; NDOM – nondominant; A – average; SD – standard deviation.

Table 9: Overview of normative values for other studies.

Study	Sport	Sex	Age / level	Number of subjects	Side	Medial		Inferolateral		Superolateral		Composite	
						A	SD	A	SD	A	SD	A	SD
Bauer. Kammermeier. Schwiertz and Muehlbauer (2021)	Borderline intellectual functioning	Both	Children	30	Left	88.8	11.7	85.4	16.0	66.6	14.5	80.3	10.8
Bauer. Kammermeier et al. (2021)	Borderline intellectual functioning	Both	Children	30	Right	85.2	12.6	82.5	13.6	68.7	15.4	78.8	10.7
Bauer. Kammermeier et al. (2021)	Control group	Both	Children	30	Left	102.8	7.1	95.9	11.9	74.2	7.9	91.0	6.5
Bauer. Kammermeier et al. (2021)	Control group	Both	Children	30	Right	101.3	8.3	97.9	12.2	77.3	8.8	92.2	6.3
Schwartz et al. (2019)	Children	Both	12 years	14	Left	85.4	9.6	79.0	9.5	58.8	7.6	74.4	7.9
Schwartz et al. (2019)	Children	Both	12 years	14	Right	84.3	9.6	77.0	9.6	56.7	9.3	72.7	7.9
Schwartz et al. (2019)	Children	Both	13 years	20	Left	93.5	8.1	87.2	13.7	65.7	10.9	82.1	9.8
Schwartz et al. (2019)	Children	Both	13 years	20	Right	92.5	8.4	88.3	13.8	62.2	10.5	81.0	8.8
Schwartz et al. (2019)	Children	Both	14 years	24	Left	92.9	6.2	83.2	13.9	66.3	12.7	80.8	8.5
Schwartz et al. (2019)	Children	Both	14 years	24	Right	93.1	6.6	82.0	11.4	62.7	8.4	79.3	6.5
Schwartz et al. (2019)	Children	Both	15 years	20	Left	97.1	11.1	78.9	9.6	64.5	8.3	80.2	6.6
Schwartz et al. (2019)	Children	Both	15 years	20	Right	95.7	10.6	76.3	9.1	61.1	9.8	77.7	7.0

Study	Sport	Sex	Age / level	Number of subjects	Side	Medial		Inferolateral		Superolateral		Composite	
						A	SD	A	SD	A	SD	A	SD
Schwartz et al. (2019)	Children	Both	16 years	18	Left	95.6	13	72.9	10.9	61.8	10.6	76.8	9.8
Schwartz et al. (2019)	Children	Both	16 years	18	Right	93.6	11.5	72.4	10.7	59.5	11.4	75.2	8.7
Schwartz et al. (2019)	Children	Both	17 years	15	Left	93.9	12.7	74.5	10.7	64.1	14.2	77.5	10.9
Schwartz et al. (2019)	Children	Both	17 years	15	Right	94.4	10.0	75.9	11.2	61.5	9.5	77.3	8.8
Schwartz. Bauer and Muehlbauer (2021)	Children	M	10–11 years	21	Left	99.5	9.0	97.0	14.4	70.7	15.9	89.1	11.9
Schwartz et al. (2021)	Children	M	10–11 years	21	Right	100.1	7.9	95.4	14.5	69.7	17.1	88.4	11.9
Schwartz et al. (2021)	Children	F	10–11 years	35	Left	98.2	9.3	96.6	14.6	71.4	12.8	88.7	11.0
Schwartz et al. (2021)	Children	F	10–11 years	35	Right	100.7	10.9	98.4	17.4	73.0	15.2	90.7	12.9
Schwartz et al. (2021)	Children	M	12–13 years	84	Left	93.1	11.1	85.9	14.5	60.9	13.0	80.1	11.4
Schwartz et al. (2021)	Children	M	12–13 years	84	Right	92.9	10.3	86.0	16.3	63.0	12.9	80.5	10.9
Schwartz et al. (2021)	Children	F	12–13 years	91	Left	95.8	11.0	88.8	14.7	67.3	12.0	84.0	11.1
Schwartz et al. (2021)	Children	F	12–13 years	91	Right	95.7	11.7	88.4	13.7	69.0	12.5	84.5	11.1
Schwartz et al. (2021)	Children	M	14–15 years	130	Left	103.7	11.8	95.7	15.8	73.7	14.0	91.1	11.9
Schwartz et al. (2021)	Children	M	14–15 years	130	Right	104.1	12.3	97.7	15.8	76.2	13.5	92.6	11.9
Schwartz et al. (2021)	Children	F	14–15 years	88	Left	96.9	9.3	83.1	12.5	69.2	14.2	83.1	10.1
Schwartz et al. (2021)	Children	F	14–15 years	88	Right	98.3	10.3	84.1	13.1	70.7	14.4	84.3	10.8
Schwartz et al. (2021)	Children	M	16–17 years	105	Left	95.8	15.5	91.1	21.0	74.6	16.4	87.2	13
Schwartz et al. (2021)	Children	M	16–17 years	105	Right	96.5	15.6	92.0	20.6	76.8	16.0	88.4	12.8
Schwartz et al. (2021)	Children	F	16–17 years	111	Left	94.9	13.0	84.9	15.6	70.4	15.4	83.4	11.9

Study	Sport	Sex	Age / level	Number of subjects	Side	Medial		Inferolateral		Superolateral		Composite	
						A	SD	A	SD	A	SD	A	SD
Schwartz et al. (2021)	Children	F	16–17 years	111	Right	96.6	14.5	85.2	15.8	72.1	15.5	84.6	12.3
Kuniki, Iwamoto and Kito (2022)	Adults – worse group	F	Adults	8	Average							88.7	5.7
Kuniki et al. (2022)	Adults – better group	F	Adults	8	Average							77.5	7.0
Kuniki et al. (2022)	Adults – worse group	M	Adults	9	Average							88.1	6.0
Kuniki et al. (2022)	Adults – better group	M	Adults	9	Average							77.4	10.0
Pires and Camargo (2018)	Adults	Both	Adults	22	Average	89.49	16.26	64.16	13.38	46.38	15.27	66.67	13.91
Savitzky et al. (2021)	Adults	Both	Adults	12	DOM	75.4*	11.7*	65.6*	15.2*	52.8*	11.0*		
Savitzky et al. (2021)	Adults	Both	Adults	11	DOM	72.5*	18.8*	68.0*	11.0*	51.2*	9.9*		
Schwartz, Beurskens and Muehlbauer (2020)	Adolescents	Both	Adolescents	37	Left	92.7	10.4	88.3	17.5	65.8	13.8	82.3	12.3
Schwartz et al. (2020)	Adolescents	Both	Adolescents	37	Right	94.5	11.9	87.2	16.6	67.0	12.6	82.9	12.1

*results were not normalised based on arm length; M – male; F – female; DOM – dominant; NDOM – nondominant; A – average; SD – standard deviation.