A System for Evaluating Powerlifting and Other Multi-Event Performances

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Current Powerlifting scoring unequally rewards the 3 different lifts and the Wilks formula is neither transparent nor easily updated. There is no provision for comparing across sex. **PURPOSE:** The purpose of this study was to provide a statistically sound method for evaluating Powerlifting performance which could also be used with other multi-event sports. **METHODS:** Data were collected on the top 50 (men) or the top 30 (women) individual scores in each weight class for each of the three Powerlifting lifts. Means and standard deviations were then calculated for each lift and weight class by sex. **RESULTS**: Mean and (standard deviation) for each weight class for women and men for each lift in kilograms. The z-score for the highest lift is also shown (n=30, except as shown, n=50 for men).

Wt Class (kg)	Mean (SD)			Top Z-score		
	Squat	Bench	Deadlift	Squat	Bench	Deadlift
44	84.1 (16.7)	52.5 (10.5)	106.9(16.9)	2.46	2.61	2.13
48	108.8 (10.9)	66.1 (4.6)*	139.2 (8.0)	2.84	8.28	2.90
52	136.4 (16.9)	79.9 (8.0)	157.3 (11.2)	2.72	3.23	2.47
56	146.7 (12.0)	90.4 (9.0)	170.4 (13.7)	2.97	2.55	2.60
60	163.0 (14.2)	94.8 (7.4)	181.4 (12.2)	3.46	5.56	2.54
67.5	174.2 (12.0)	114.7 (11.7)	198.1 (16.2)	3.26	2.16	2.58
75	194.4 (12.2)	122.0 (9.4)	211.6 (12.5)	2.66	1.74	2.48
82.5	194.7 (16.2)	125.6 (11.4)	213.2 (15.3)	3.10	2.31	2.54
90	189.1 (18.3)	120.4 (12.2)**	211.3(17.5)	3.30	3.52	2.63
SHW	208.7 (28.5)	128.6 (22.2)	216.7 (17.1)	3.02	3.19	2.96
			Men			
	Squat	Bench	Deadlift	Squat	Bench	Deadlift
56	187.8 (25.1)	137.6 (15.3)	214.1(20.6)	2.73	3.15	3.44
67.5	222.6 (12.3)	160.7 (9.6)	254.2 (14.9)	2.40	3.30	4.15
75	253.8 (18.1)	181.0 (11.9)	280.5 (15.3)	3.77	3.84	2.92
82.5	277.8 (14.9)	199.3 (11.4)	300.6 (12.7)	3.12	4.64	4.60
90	306.0 (16.3)	213.9 (12.8)	321.3 (15.9)	3.59	3.32	4.29
100	345.0 (21.1)	230.4 (9.7)	341.7 (17.2)	3.32	3.61	3.90
110	347.1 (15.5)	242.1 (12.8)	351.1 (14.9)	2.57	4.35	3.44
125	361.4 (17.7)	260.3 (13.0)	357.1 (13.5)	4.28	3.53	3.15
140	372.5 (22.0)	261.5 (14.9)	354.0(15.9)	4.32	3.79	3.04
SHW	386.9 (27.7)	271.5 (17.0)	364.9 (16.6)	2.64	3.30	2.86

*N=29, **N=28; SHW= super heavy weight

Powerlifting performance can be evaluated by the sum of the three z-scores for the three lifts divided by three (the highest score wins). **CONCLUSION:** The raw z-scores reflect a dimensionless number which can be used to evaluate each lift and for the total of the 3 lifts regardless of weight class or sex. This approach can be updated easily as more data become available, particularly for women. Although the means and standard deviations should be relatively stable, this computation is transparent and can be readily updated as lifters improve. This system overcomes many of the measurement challenges in evaluating among athletes in multi-event sports, in multiple weight divisions and between sexes. We recommend its use. This research was not funded.