Standard Scores & Data Profiling

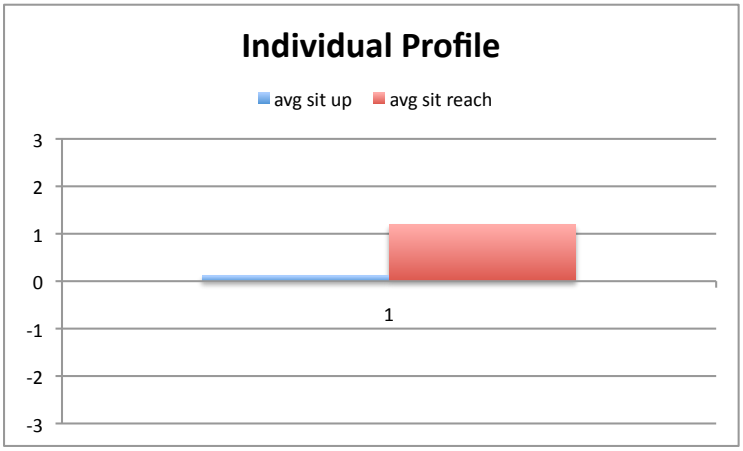
Part 1: Answer - Z scores

Using the fitness data file:

Obtained Z scores for each individual on both measures (used average of the two raw scores). Here are 1st few cases:

Zavgsitup	Zavgsitreach
.11376	1.18997
-2.07096	.29457
-.39431	2.86138
-.95319	.05580
.06296	1.01089

Profiled the first person's sit up and sit and reach performance relative to the whole group. Obtained Z scores (.11376; 1.18997) from PASW then used excel to produce the graph below.



Profiled the first female's sit up and sit and reach performance relative to all other females.

Obtained mean and standard deviation for females, then by hand obtained z score for profiling 1st female (#24 in data set).

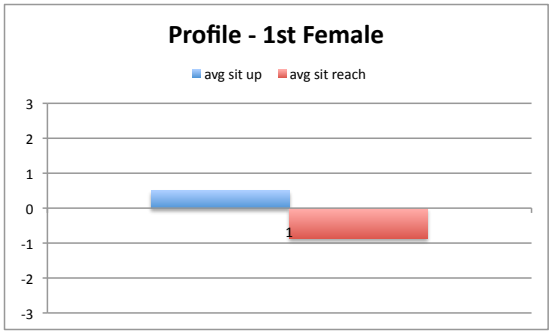
Statistics for Female Group			
		avgsitup	avgsitreach
N	Valid	23	23
	Missing	0	0
Mean		55.7609	14.0543
Std. Deviation		9.42780	1.51030

Scores to profile:

60.50 12.75

$$z = \frac{60.5 - 55.7609}{9.42780} = .503$$

$$z = \frac{12.75 - 14.0543}{1.51030} = -.863$$

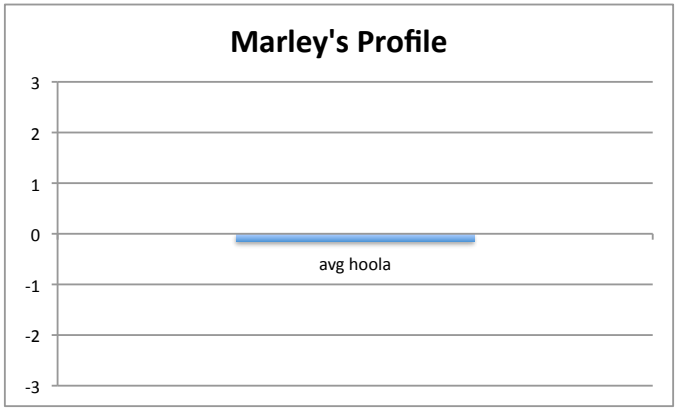


Part 2: Answer - Data Profiling

Use the Hoola Hoop data file:

Profiled Marley's hoola hoop ability relative to all others.

Z score to profile: -.14557



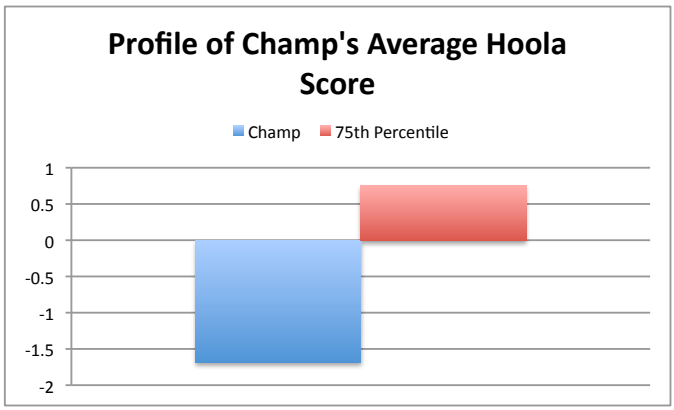
Construct a profile for Champ's hoola average using as the reference point the group overall. Include a criterion bar delineating the 75th percentile.

Obtained Champ's average hoola score converted to a z score: -1.68695

Converted 75th percentile to a z score by hand:

average of 2 hoola scores		
N	Valid	151
	Missing	0
Mean	38.6722	
Std. Deviation	14.92169	
Percentiles	75	50.0000

$$z_{75thpercentile} = \frac{50 - 38.6722}{14.92169} = .759$$



Part 3: Answer - Group Profile

Assume you were given the information below and asked to construct a group profile for SJSU Students' engagement in community service in the fall of 2010 relative to students in all other CSU campuses. Include on your graph the CSU goal of 60 hours on average. Interpret the graph you create.

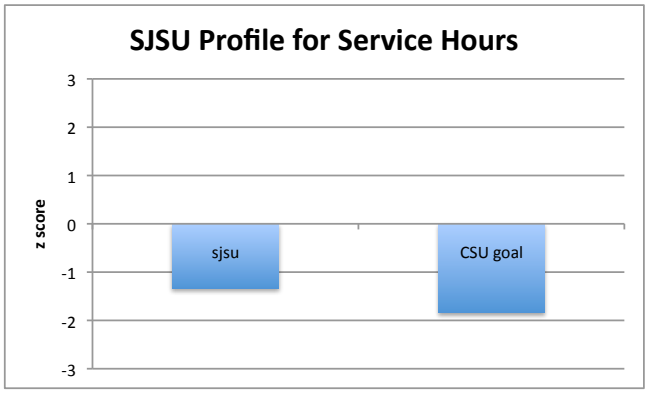
Group	Mean Hours of Service	Sx for Hours of Service
SJSU Students	63	4
CSU Students	71	6

Converted SJSU hours to a z score:

$$z_{sjsu} = \frac{63 - 71}{6} = -1.33$$

Converted CSU goal to a z score

$$z_{csugoal} = \frac{60 - 71}{6} = -1.83$$



Interpretation: SJSU students exceeded CSU goal however, hours of service relative to students in other CSU's considerably less. Students at other CSU's far exceeding CSU goal with regard to hours of service in the fall of 2010.