

High School Wrestling Weight Class Study

In the past few years, there has been great debate on whether high school wrestling should go to twelve weight classes rather than keep it at the current number - fourteen. The discussion has been quite heated at times. It is not an easy decision - there are good arguments on both sides of the issue.

I have been given data on high school wrestlers from Minnesota, North Dakota, South Dakota and Wisconsin over the past three years. It includes information on North and South Dakota from the 2002-03 season, from Minnesota for 2002-03 and 2005-06, and for Wisconsin from 2005-06. The data for 2003 came from approximately 10,000 high school wrestlers spread across the Dakotas and Minnesota, and the 2006 data from approximately 17,500 high school wrestlers in Minnesota and Wisconsin.

Why the reduction to twelve, rather than another number? This has been a much discussed topic amongst Minnesota coaches. Two polls have been taken - one in 2003 and another in 2006. In both polls, the coaches overwhelmingly chose to go to twelve weight classes. This argument is not unique to Minnesota - other states like Pennsylvania and Ohio have made similar proposals.

After receiving the data in 2003, I conducted a study to determine a new set of weight classes to be used in high school wrestling. My goal in performing the study was to examine the current system of weights to determine how well it fit our wrestlers, as well as look at some alternatives. The data analysis showed that the weight classes in use did not fit very well. So, an alternative proposal based on the data analysis was submitted to the National Federation of State High School Associations for approval. The NFHS chose not to act on the proposal, and it was tabled.

In the time since then, I've added another study based on high school wrestlers from Minnesota and Wisconsin during the 2005-06 season. I wanted to determine if the results changed much from year to year. I found that they did not, which lends credence to the argument that these new weights fit our kids much better than the current system. Minnesota coaches and the Minnesota State High School League are exploring the possibility of breaking from the NFHS on this issue and trying the new set of weights. Wisconsin coaches are now also exploring the same possibility.

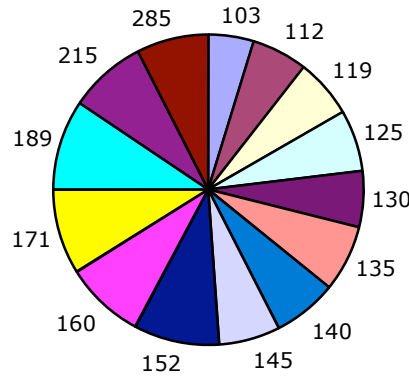
This report is a summary and comparison of the studies from 2003 and 2006.

High School Wrestling Weight Class Study 2005-06 Data (MN / WI Combined)

The best fitting set of weights will be the one with the lowest standard deviation.

Current Distribution (MN & WI Combined, 2005-06, Adjusted Weights)

Weight	No.	Pct.
103	1229	7.01%
112	1182	6.74%
119	1231	7.02%
125	1222	6.97%
130	1327	7.57%
135	1172	6.68%
140	1158	6.60%
145	1171	6.68%
152	1405	8.01%
160	1296	7.39%
171	1402	7.99%
189	1483	8.46%
215	1238	7.06%
285	1020	5.82%



Total: 17536

Standard Deviation:

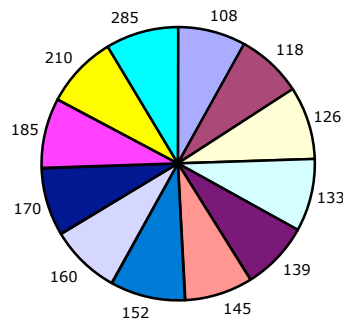
120.7073475

Comments

Using adjusted weights for each wrestler is an attempt to account for the weight loss that each wrestler experiences at the beginning of the season while 'Getting in shape.' An amount equal to 3% was deducted from each wrestler's actual weight at certification.

Best Distribution (12 Wts, MN & WI Combined, 2005-06, Adjusted Wts)

Weight	No.	Pct.
105	1470	8.38%
115	1435	8.18%
123	1559	8.89%
129	1471	8.39%
135	1428	8.14%
141	1380	7.87%
147	1375	7.84%
155	1515	8.64%
165	1484	8.46%
180	1466	8.36%
204	1454	8.29%
285	1499	8.55%



Total: 17536

Standard Deviation:

52.62963792

Comments

Using adjusted weights for each wrestler is an attempt to account for the weight loss that each wrestler experiences at the beginning of the season while 'Getting in shape.' An amount equal to 3% was deducted from each wrestler's actual weight at certification.

High School Wrestling Weight Class Study

Summary & Conclusion

Below is a comparison of all the results from the three studies. Notice that the 2003 and 2006 studies from Minnesota turned out **identical**, except for one weight class. I think the explanation for differences between Wisconsin and Minnesota in the 2006 studies is that Minnesota can use 7th and 8th graders on their varsity teams. In other words, more young kids means more light kids.

There is a reason for using twelve weights rather than another number. The Minnesota coaches have gone through a long, thorough discussion on the topic and decided (through voting) that twelve was best.

The table below summarizes the results of the three studies using 12 weights:

<u>2003 Study</u>	<u>2006 Study (MN)</u>	<u>2006 Study (WI)</u>	<u>2006 Study (Combined)</u>
106	106	112	108
117	117	121	118
125	125	129	126
132	132	135	133
138	138	141	139
144	144	147	145
151	151	154	152
159	159	163	160
169	169	174	170
184	184	190	185
209	208	216	210
275	285	285	285

This list shows what the weights would be if the weight of each wrestler were adjusted 3% downward:

105, 115, 123, 129, 135, 141, 147, 155, 165, 180, 204, 285

This is an attempt to account for the weight loss that every wrestler experiences during the first few weeks of the wrestling season. This weight loss is due only to increased intensity and activity levels in their training. I believe it is a more accurate picture of where kids would actually be competing.

Acknowledgements: Craig Perry & Skip Peltier of the Minnesota State High School League, Byron Olson of Lakeville (MN) High School, Dave Carlsrud from North Dakota, and Luke Francois of the Wisconsin Wrestling Coaches Association.

*Study by John H. Peterson
(jhpeter@elkriver.k12.mn.us)
October 27, 2006*