

“Reach Plus 2” in Disc Golf

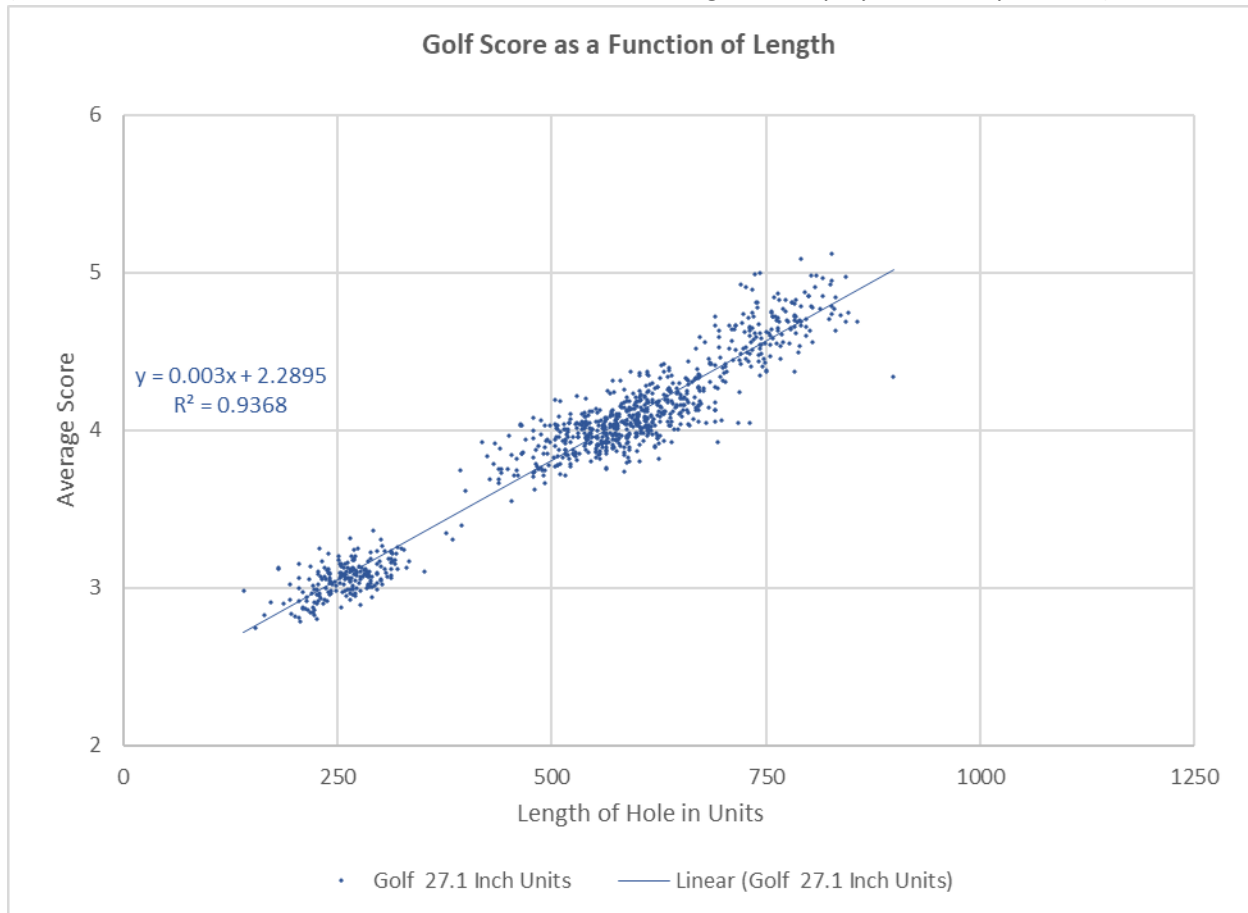
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For disc golf holes designed to be "one-drive holes", "two-drive holes", etc. par will not always be two higher than the number of drives. To see why it doesn't always work for disc golf, let's first look at why it does work for golf.

Here is a plot of golf hole scores by distance.

(For 918 holes. All the holes on the Tour, I think. An average of 358 player-rounds per hole.)



On average, the score for 1000-rated disc golfers goes up by one with every additional 330 feet (110 yards, 100 meters), while for golf the scores go up by one with every additional 774 feet (248 yards, 227 meters). The Score as a Function of Length charts are scaled to where each additional unit of distance results in the same increase in score for both sports.

On the Golf Score as a Function of Length chart, note three things:

Golfers take MORE than two non-distance-related strokes per hole. This makes it a sure thing that "reach plus two" will be a good score in golf; as par should be.

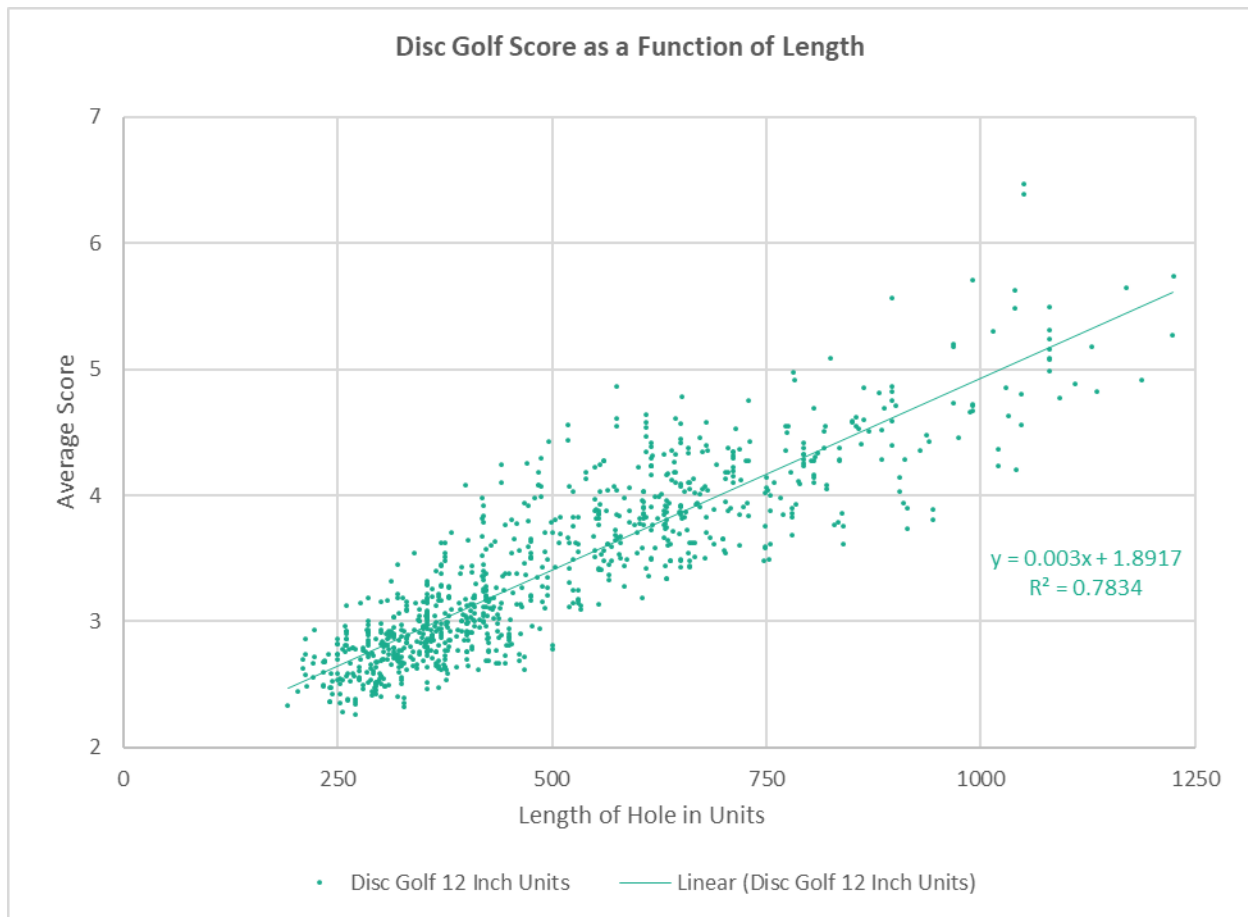
There is a gap between the one-drive holes and the two-drive holes.

The scores are tightly bunched around the linear fit line. R-squared about 93%, so distance is a good predictor of average score. Thus, golf course architects can avoid holes that average about 3.50 by merely choosing not to use certain hole lengths. The width of this length gap is about 30% of a full throw.

Now, let's look at the same chart for disc golf scores.

The following shows the scores for 1000-rated players.

(On the 918 most-played disc golf holes over the past few years (an average of 501 player-rounds per hole)).



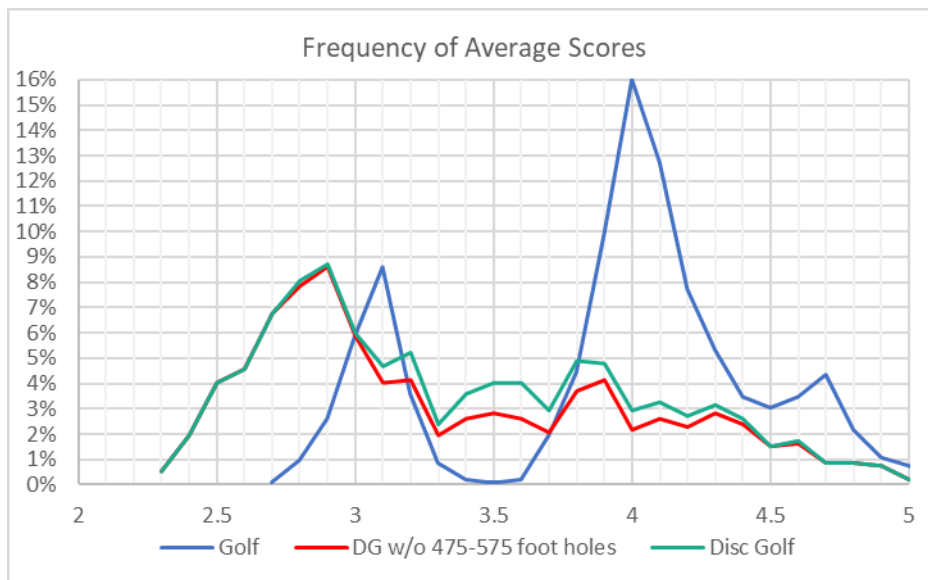
On the chart of Disc Golf Score as a Function of Length, note:

The dispersion above and below the line is greater than for golf. R-squared about 78%.

Players take fewer than two throws per hole that are not distance related. Therefore, sometimes "reach plus two" will not be a good score in disc golf. Which makes it too high to be par. If we were to remove the non-distance related throws that are the result of punitive penalties, the proportion of holes where reach-plus-two is a good score would be even smaller.

There is no gap in scores nor bunched scores. Which means there are no clear boundaries between holes that are one-drive vs. two-drive, etc.

Here is what would happen if disc golf tried to eliminate specific holes to *create* a gap around an average score of 3.50. (The size of the prohibited length zone is 30% of a throw, as for golf.) Still no gap; thus it's not even possible to create a gap between one-drive and two-drive holes in disc golf.



Average scores are rounded to the nearest 0.1 for tabulating.

Conclusion

Reach Plus 2 will almost always be the correct par for golf because golfers usually need more than two non-distance related throws to complete a hole.

Reach Plus 2 will often NOT be the correct par for disc golf because disc golfers often don't need two non-distance related throws.

More generally, any function of score by distance will not work as well for disc golf as it does for golf.