

Scoring Spread Matchups Between Disc Golf Tournaments

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Information

A disc golf tournament's job is to sort players by skill to provide information about who played better. One measure of information to be found in the set of final scores is the Entropy of the distribution of scores.

However, this does not tell us which tournament did a better job of providing information. It is easier to provide more information when there are more players and when there is a wider range of skill across the players.

To compare two tournaments directly, both tournaments would have to have the same set of players. Or, all the players that were in only one tournament can be removed from the data and the remainder can be compared directly.

That takes care of one head-to-head comparison. To compare a tournament to all other tournaments, it needs to go head-to-head against all other tournaments, and then a rating can be used to summarize the results. The ratings below reproduce the share of total information provided in all matches by the tournament. A value of 1.000 is average. This allows tournaments to be ranked according to how well they sorted the players in the tournament which were in other tournaments.

Correlation

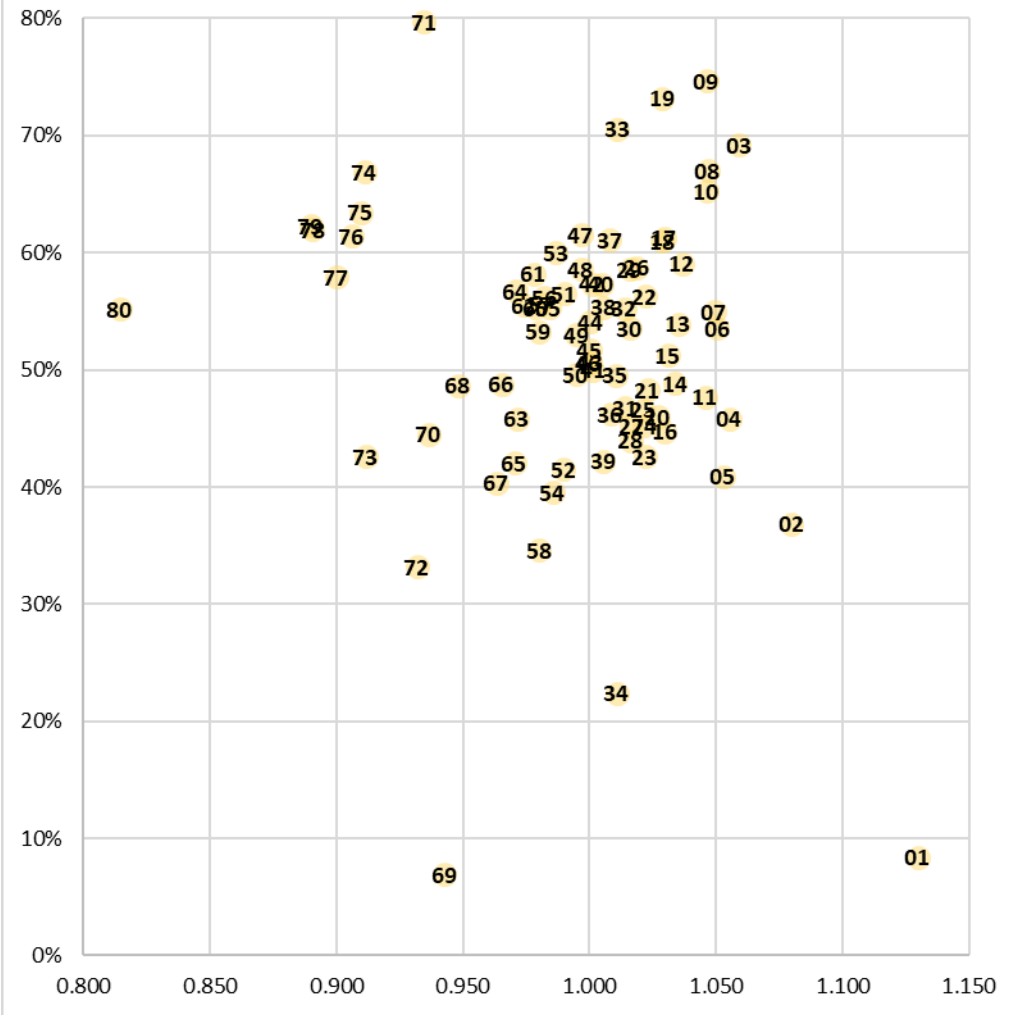
If a tournament gave out scores which were unrelated to any underlying disc golf skill, it could still generate entropy. So, a secondary test is to see how well a tournament's scores correlated with the scores given by other tournaments.

Again, this takes head-to-head comparisons based on the shared set of players. When the correlations between each pair of tournaments has been calculated, the correlation value for a particular tournament can be computed by taking the weighted average of all of its correlations. The weights are $n-1$, where n is the number of players in common.

Results

The following graph summarizes the results. The table shows the values and tournament names. Only the MPO division from A-tiers and above were included. Tournaments that had fewer than 50 total player-rounds in common with all other tournaments are not shown.

2021 Disc Golf Tournaments



Number	Event	Scoring Spread	
		Rating	Correlation
01	DGPT Championship Presented by Guaranteed Rate	1.130	8%
02	United States Disc Golf Championship	1.080	37%
03	Three Rivers Open presented by BFGoodrich - Pro Weekend	1.059	69%
04	Cedar Creek Open	1.055	46%
05	Charlie Vettiner Open Powered by Prodigy	1.053	41%
06	DGPT - Discraft Ledgestone Insurance Open presented by GRIPeq	1.051	54%
07	St. Charles Open: Smokin Aces Championship	1.049	55%
08	28th Annual City of Mobile Championships Presented by Dynamic Discs	1.047	67%
09	St. Patrick's Classic - Powered by Innova Champion Discs	1.046	75%
10	The 303 Open	1.046	65%
11	Republic Wireless presents the 38th Annual Dogwood Crosstown Classic, Driven by CADL	1.046	48%
12	The Brent Hambrick Memorial Open presented by Dairy Queen	1.037	59%
13	DGPT - MVP Open at Maple Hill	1.035	54%
14	DGPT - Waco Annual Charity Open presented by Prodigy Disc	1.034	49%
15	Dynamic Discs Open - National Tour	1.031	51%
16	16th Annual Four States Open	1.030	45%
17	The Warwick Disc Golf Championships presented by St Peter Church	1.029	61%
18	St. Louis Open	1.029	61%
19	End of the Trail (SJVC) Classic - 10k\$ ADDED Cash Sponsored by San Joaquin Valley College	1.029	73%
20	DGPT - Idlewild Open presented by Dynamic Discs & The Nati	1.027	46%
21	DGPT - Des Moines Challenge presented by Discraft	1.023	48%
22	Utah Open Driven by Innova	1.022	56%
23	DGPT - Las Vegas Challenge presented by Innova	1.022	43%
24	DGPT - Discraft's Green Mountain Championship presented by Upper Park Disc Golf	1.022	45%
25	Carolina Clash Presented by Another Round Disc Golf	1.021	47%
26	Shelly Sharpe Memorial presented by SpinnersontheGreen.com	1.019	59%
27	Santa Cruz Masters Cup Presented by Innova - National Tour	1.017	45%
28	Delaware Disc Golf Challenge - National Tour - Driven by Innova	1.016	44%
29	Riverside Disc Golf Presents The 16th Annual Mayhem Open A Tier Driven by Innova Discs	1.016	59%
30	DGPT - Discraft's Great Lakes Open	1.016	54%
31	PDGA Professional Disc Golf World Championships Presented by Grip6	1.014	47%
32	Tennessee State Disc Golf Championships	1.014	55%
33	Bowling Green Open	1.011	71%
34	Lake County Trailblazer Driven by Innova	1.011	22%
35	DGPT - Portland Open presented by Dynamic Discs	1.010	50%
36	Discraft's 2021 CCR Open	1.008	46%
37	River City Open presented by Discraft - Pro	1.008	61%
38	Discraft presents Sun King's Throw Down the Mountain IX (Weekend 3)	1.005	55%
39	Joe Machens Toyota's Mid America Open a DGPT Silver Series Event presented by Discraft	1.005	42%
40	Discraft's Lower Peninsula Open + WGE	1.005	57%

41	Memorial Championship presented by Discraft	1.001	50%
42	Seviren Lang Memorial	1.001	57%
43	KR8om presents 31st Veterans Park Open (Pro weekend) powered by MINT Discs	1.001	51%
44	Stafford Open a DGPT Silver Series Event - Driven by Innova	1.000	54%
45	Dellwood Disc Golf's Clash at The Canyons V a DGPT Silver Series Event presented by Discmania	1.000	52%
46	Innova Discs Myrtle Beach Open Presented by US Disc Golf	1.000	51%
47	Lake Superior Open	0.997	62%
48	DGPT - OTB Open presented by Innova	0.996	59%
49	Titan Open 2021	0.995	53%
50	The Vintage Open a DGPT Silver Series Event	0.995	50%
51	The Challenge @ Goat Hill Park - A DGPT Silver Series Event - Presented by Innova (MPO/FPO only)	0.990	57%
52	Seth Burton Memorial	0.990	42%
53	Michigan State Professional Championships	0.987	60%
54	Music City Open Presented by Dynamic Discs - NT Finale	0.985	40%
55	The Magic City Mega Bowl presented by Dynamic Discs	0.984	55%
56	Hub City Halloween Open	0.982	56%
57	Dynamic Discs Presents: 4th Annual Northwest Arkansas Open Sponsored By Fayettechill	0.981	56%
58	Farmers Insurance Oklahoma Open	0.980	35%
59	DGPT - Play It Again Sports Jonesboro Open powered by Prodigy	0.980	53%
60	26th Annual Texas State Disc Golf Championship Presented by Latitude 64 - National Tour	0.979	55%
61	Discraft presents The Open at Belton a DGPT Silver Series Event	0.978	58%
62	The 2021 Professional Pittsburgh Flying Disc Open	0.974	56%
63	Dynamic Discs Presents the Piney Woods Open - GDC \$5K/\$10K Event	0.971	46%
64	DGPT - The Preserve Championship designed by Leiviska Disc Golf	0.971	57%
65	10th Annual Chain Hawk Open Presented by Dynamic Discs	0.970	42%
66	Greater Hartford Disc Golf Open presented by No Worries Brewing Company	0.965	49%
67	The 38th Annual Victoria Open driven by Innova	0.963	40%
68	The Majestic	0.948	49%
69	Charleston Classic at the Woodlands, Driven by Innova	0.943	7%
70	Forsyth Decatur Open	0.936	45%
71	Kentucky State Championships	0.935	80%
72	Mad City Open	0.932	33%
73	Down East Players Cup presented by Eastern Disc Golf and Disc-Box	0.912	43%
74	Ponca City Open Sponsored By Dynamic Discs	0.911	67%
75	Huk Central presented by Southern Wesleyan University - Pro	0.910	63%
76	Fort Steilacoom Open - Driven by Innova	0.906	61%
77	The Rumble Presented by Iron Lion Disc Golf Supply	0.900	58%
78	Silver Cup XXI Pro presented by Discmania and Rollin' Ridge	0.891	62%
79	Michigan Disc Golf Hall of Fame Classic	0.890	62%
80	Tri-Fly Disc Golf presents The South Florida Open Sponsored by Westside Discs	0.814	55%

Observations

The most information and one of the lowest correlations was from the DGPT Championship, which has a different format than other tournaments.

The second-highest amount of information was generated by the USDGC. The players at this tournament are mostly drawn from the best players. It is thought this tournament can test those players in ways that normal tournaments don't.

It seems the ranking of the tournaments tracks with those tournaments' reputations. Perhaps something actually is being measured.

Maybe the tournaments which are poor at generating information could make a few changes.

Future Work

The same type of analysis could be performed by round or by course. Also, a similar analysis for FPO could be done.