



New Ways to Look at Numbers

*Moneyball, analyzing between the
"lines", and jockey racing...*

*UA-RTIP Global Symposium on Racing & Gaming
December 2013*



DIRT MILE 8

1/4 :22.12 1/2 :44.75



TRAKUS 
Digital Sports Information™



DIRT MILE 8

1/4 :22.12 1/2 :44.75



➤ 12 7/2 6 17 11 8 5 10 10 5/2



LONGINES
43.6

1400m



TRAKUS

09-21-2013

HOOSIER PARK
RACING - CASINO

Race 10

1/2 56:1
1/4 27:0
MPH 30.7



2 3 1 21 8 6 3 1

2 1 8 3 4 10 5 9

400

9

25.10

3

31.90

5

RACE

10

1500M

9

3

5

2

7

6

13

1

8

4

10

11



3:01
SANTA ANITA PARK

BC TURF

21 MTP RACE 9

WIN PLC SHW

ODDS

3% 4% 5%

1 21

0% 0% 1%

2 95

2% 4% 5%

3 30

16% 17% 15%

4 4

1% 1% 1%

5 55

1% 1% 1%

6 60

33% 21% 24%

7 3/2

13% 14% 15%

8 5

7% 9% 7%

9 10

9% 14% 11%

10 7

5% 5% 5%

11 14

3% 4% 3%

12 24

BREEDERS' CUP JUVENILE
ORDER OF FINISH

			BEATEN LENGTHS	FEET TRAVELED	FINAL 1/4 TIME
1st	4	NEW YEAR'S DAY	--	5693	26.35
2nd	13	HAVANA	1	+25	27.39
3rd	14	STRONG MANDATE	2	+17	27.62
4th	5	BOND HOLDER	3 1/4	-7	26.78
5th	6	TAP IT RICH	3 1/2	+57	27.27
6th	3	MEXIKOMA	4 1/4	-15	26.64
7th	10	WE MISS ARTIE	4 1/2	-6	27.73
8th	2	DANCE WITH FATE	9 1/2	+36	27.99
9th	12	DIAMOND BACHELOR	9 1/2	+26	27.04
10th	1	SMARTY'S ECHO	16 1/4	+31	28.80
11th	11	MEDAL COUNT	16 1/2	+12	28.74
12th	9	RUM POINT	17 1/2	+2	29.81
13th	8	CONQUEST TITAN	24	-20	30.97

81° SUNNY

CHANGES RACE 10

NO CHANGES

RESULTS RACE 6

11 8.00 4.60 3.40 **9** 9.20 5.40 **4** 4.80



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7% 9% 7%

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9% 14% 11%

10 7

5% 5% 5%

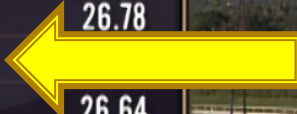
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Advanced statistics in sports...

- **MLB**
 - **WSJ recently identified average live ball “activity” in a single game was**



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 - **Extrapolated over a full regular season (more than 2,400 games)...**



Advanced statistics in sports...

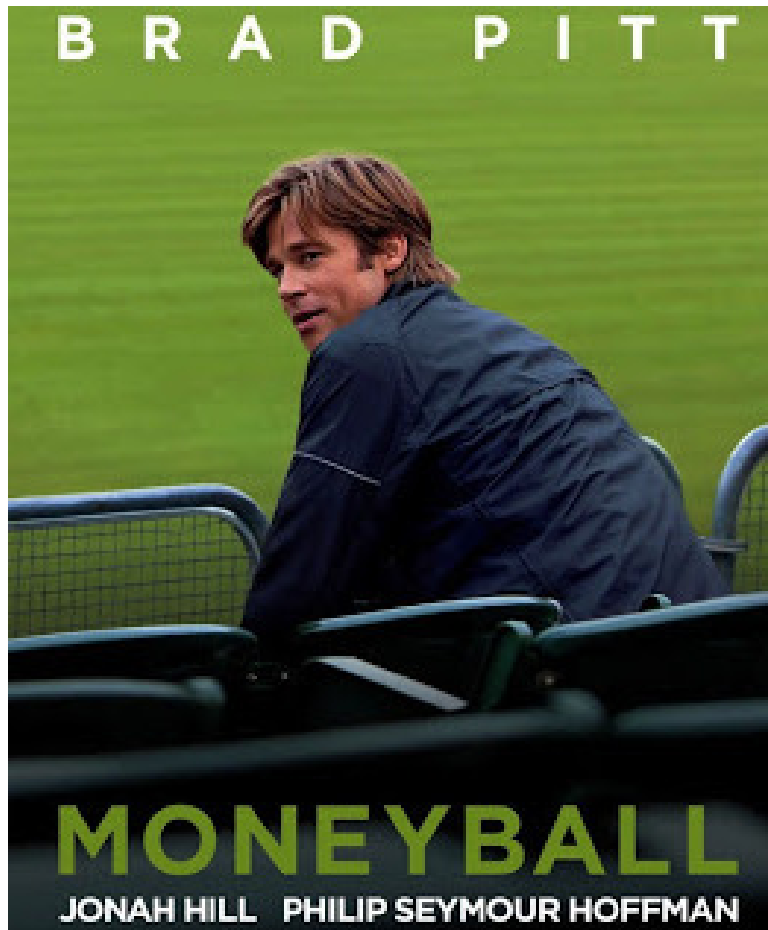
■ MLB

- WSJ recently identified average live ball “activity” in a single game was 14 minutes.
- Extrapolated over a full regular season (more than 2,400 games)...

~ 24 days of activity

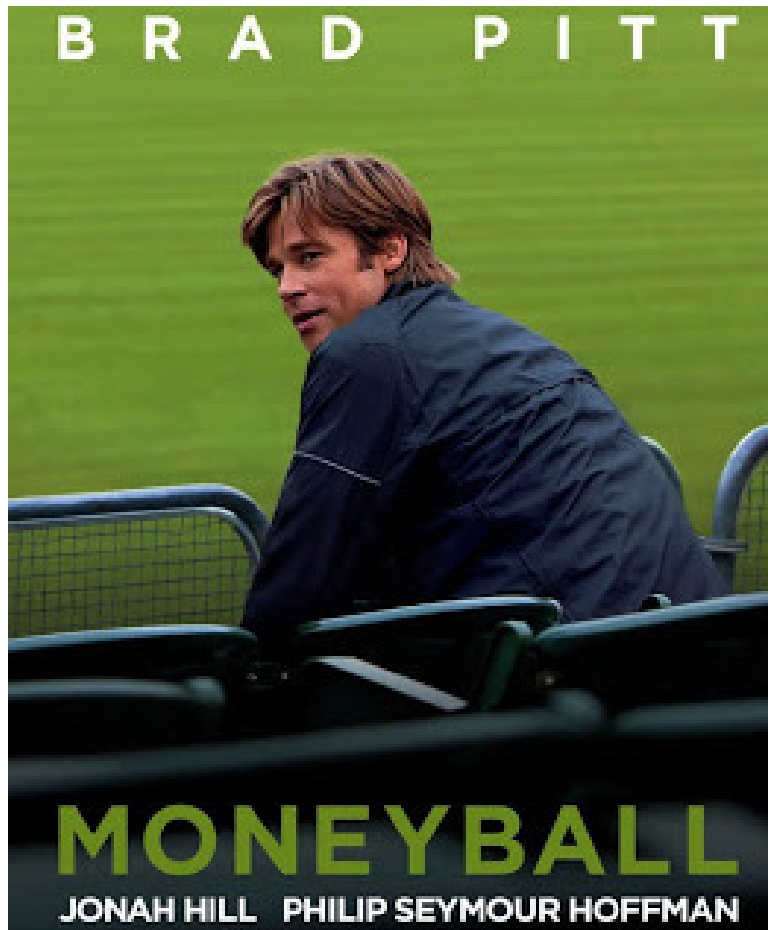


Advanced statistics in racing



- **U.S. Horse Racing**
 - ~ 45,000 races
 - ~ 85 seconds of activity per horse, per race

Advanced statistics in racing



- **U.S. Horse Racing**

- ~ 45,000 races
- ~ 85 seconds of activity per horse, per race

~ 44 days of activity

Going beyond the PPs

Will Take Charge

Own: Willis D Horton

White, White 'H' On Black Ball, Black

Ch. c. 3 (Apr) KEESEP11 \$425,000

Sire: Unbridled's Song (Unbridled) \$60,000

Dam: Take Charge Lady (Dehere)

Br: Eaton (Ky)

Tr: Lukas D Wayne

29Nov13 -11CD	fst	1 $\frac{1}{8}$:47 ¹	1:11	1:36	1:49 ¹	3 \uparrow ClarkH-G1	101	7	43 $\frac{1}{2}$	44	43 $\frac{1}{2}$	22 $\frac{1}{2}$	1hd	Saez L	L123	2.40
2Nov13 -12SA	fst	1 $\frac{1}{4}$:46 ¹	1:10 ¹	1:34 ⁴	2:00 ³	3 \uparrow BCClassic-G1	112	10	63 $\frac{1}{4}$	94	62 $\frac{3}{4}$	42 $\frac{1}{2}$	2no	Saez L	L122	8.60
21Sep13 -11Prx	fst	1 $\frac{1}{8}$:46 ³	1:10 ²	1:36	1:49 ¹	PaDerby-G2	104	8	53 $\frac{1}{2}$	54	52 $\frac{3}{4}$	1 $\frac{1}{2}$	12 $\frac{1}{4}$	Saez L	L124	*2.30
24Aug13 -12Sar	fst	1 $\frac{1}{4}$:48 ⁴	1:13 ²	1:37 ²	2:02 ³	Travers-G1	107	5	54	54 $\frac{1}{4}$	53 $\frac{1}{2}$	31	1no	Saez L	L126	9.60
27Jly13 -10Sar	fst	1 $\frac{1}{8}$:47 ²	1:11	1:34 ⁴	1:47 ¹	JimDandy-G2	105	3	57 $\frac{1}{2}$	57 $\frac{1}{2}$	56 $\frac{1}{2}$	32 $\frac{1}{2}$	21	Alvarado J	L121	17.70
8Jun13 -11Bel	fst	1 $\frac{1}{2}$:46 ³	1:10 ⁴	2:03	2:30 ³	Belmont-G1	78	10	117 $\frac{1}{2}$	128	1010	1012	1017	Court J K	L126 b	22.10
18May13 -12Pim	fst	1 $\frac{3}{16}$:48 ³	1:13 ¹	1:38	1:57 ²	Preaknes-G1	81	7	88 $\frac{1}{4}$	88 $\frac{3}{4}$	98 $\frac{3}{4}$	713	716	Smith M E	L126 b	11.10
4May13 -11CD	sly ^S	1 $\frac{1}{4}$:45 ¹	1:09 ⁴	1:36	2:02 ⁴	KyDerby-G1	86	16	106 $\frac{1}{4}$	1013	65	98 $\frac{1}{4}$	812 $\frac{1}{4}$	Court J K	L126 b	36.40
16Mar13 -10OP	fst	1 $\frac{1}{16}$:23 ¹	:47	1:12 ¹	1:45	Rebel-G2	96	7	64 $\frac{1}{2}$	64 $\frac{3}{4}$	41 $\frac{1}{2}$	32 $\frac{1}{2}$	1hd	Court J K	L122 b	28.00
18Feb13 -90P	sly ^S	1 $\frac{1}{16}$:23 ¹	:47 ²	1:12 ¹	1:44 ⁴	Southwst-G3	72	3	109 $\frac{3}{4}$	1010	1010	1015	618	Court J K	L122 b	7.20
21Jan13 -80P	fst	1	:23	:46 ³	1:11 ⁴	1:38 ³	SmrtyJns150k	88	9	42	31 $\frac{1}{2}$	2hd	1hd	1nk	Court J K	L115 b	12.10
9Dec13 -9RP	fst	1	:23 ³	:48 ⁴	1:14 ²	1:39 ⁴	SprngbrdMI300k	81	3	1hd	13	1 $\frac{1}{2}$	2hd	21 $\frac{3}{4}$	Lebron V	L120 b	11.90
24Nov12 -11CD	fst	1 $\frac{1}{16}$:24 ¹	:49	1:13 ⁴	1:44 ⁴	KyJC-G2	32	7	95 $\frac{3}{4}$	116 $\frac{1}{4}$	139 $\frac{3}{4}$	1320	1325 $\frac{1}{2}$	Court J K	L122 b	33.80
18Oct12 -7Kee	fst	7f \diamond	:22 ⁴	:47	1:11 ²	1:24	Md Sp Wt 49k	71	8	7	95 $\frac{1}{4}$	83 $\frac{3}{4}$	52 $\frac{1}{4}$	11	Court J K	L118 b	5.60
16Aug12 -3Sar	fst	5 $\frac{1}{2}$ f	:21 ⁴	:45 ¹	:57 ²	1:04	Md Sp Wt 80k	66	4	7	716	712	77 $\frac{1}{2}$	56	Rosario J	119	20.30

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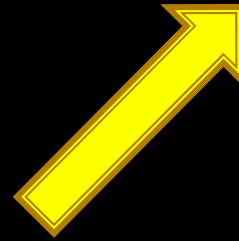
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Will Take Charge – Kentucky Derby

Will Take Charge $10^{6 \frac{1}{4}}$ $10^{13 \frac{1}{2}}$ $11^{11 \frac{1}{4}}$ 6^5 $9^{8 \frac{1}{4}}$ $8^{12 \frac{1}{4}}$

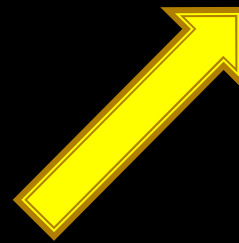
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Will Take Charge – Kentucky Derby

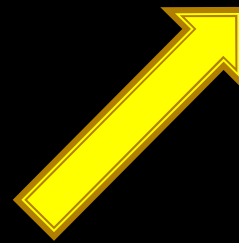
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Horse	Fastest	5/16 to 1/4
Will Take Charge	1st	6.37
Orb	2nd	6.40
Golden Soul	3rd	6.43
Revolutionary	4th	6.49
Mylute	5th	6.52

Will Take Charge – Kentucky Derby

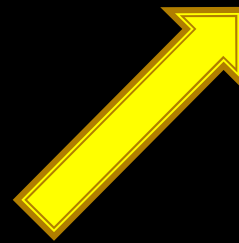
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5w run, checked 3/16

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Horse	Fastest	1/4 to 3/16
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**It's horse racing,
not jockey racing...**

Marketing horses?

- In 2012, the top 100 highest-earning horses in North America averaged
- In 2012, the top 100 most frequently-raced horses averaged

Marketing horses?

- In 2012, the top 100 highest-earning horses in North America averaged 6.8 starts
- In 2012, the top 100 most frequently-raced horses averaged 23.1 starts

Compare baseball players...

- **Last season, the top 100 MLB players ranked by most at-bats averaged**

Compare baseball players...

- Last season, the top 100 MLB players ranked by most at-bats averaged 573 plate appearances

Compare baseball players to jockeys

- Last season, the top 100 MLB players ranked by most at-bats averaged 573 plate appearances
- In 2012, the top 100 jockeys ranked by highest earnings averaged

Compare baseball players to jockeys

- Last season, the top 100 MLB players ranked by most at-bats averaged 573 plate appearances
- In 2012, the top 100 jockeys ranked by highest earnings averaged 888 mounts

Marketing horses or marketing jockeys?

- Last season, the top 100 MLB players ranked by most at-bats averaged 573 plate appearances
- In 2012, the top 100 jockeys ranked by highest earnings averaged 888 mounts
- In 2012, the top 100 jockeys ranked by number of total starts averaged

Marketing horses or marketing jockeys?

- Last season, the top 100 MLB players ranked by most at-bats averaged 573 plate appearances
- In 2012, the top 100 jockeys ranked by highest earnings averaged 888 mounts
- In 2012, the top 100 jockeys ranked by number of total starts averaged 1,003 mounts

Jockey racing...

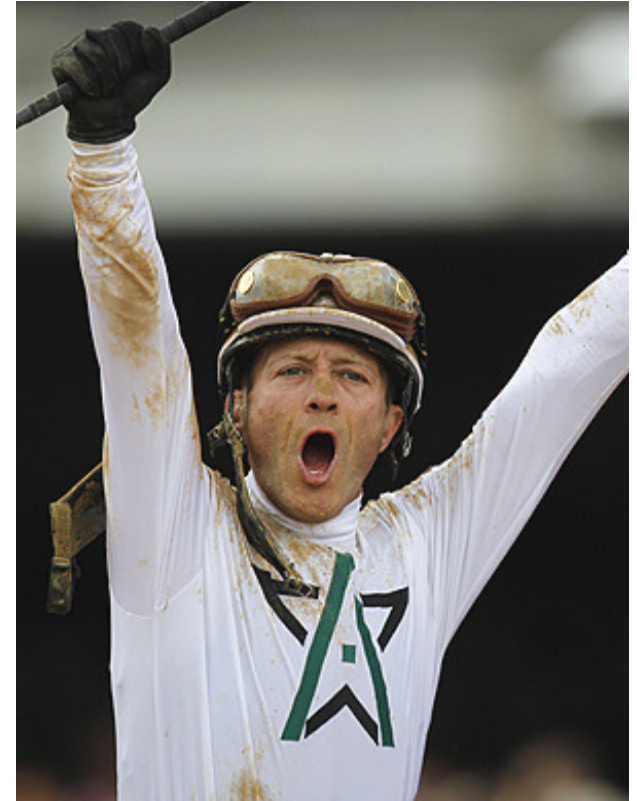
- **Could racing gain more fans, more bettors, more interest through the marketing of jockeys?**

Jockey racing...

- **Could racing gain more fans, more bettors, more interest through the marketing of jockeys?**
- **Can advanced statistics focused on jockey performance serve as a bridge to other sports fans and bettors?**

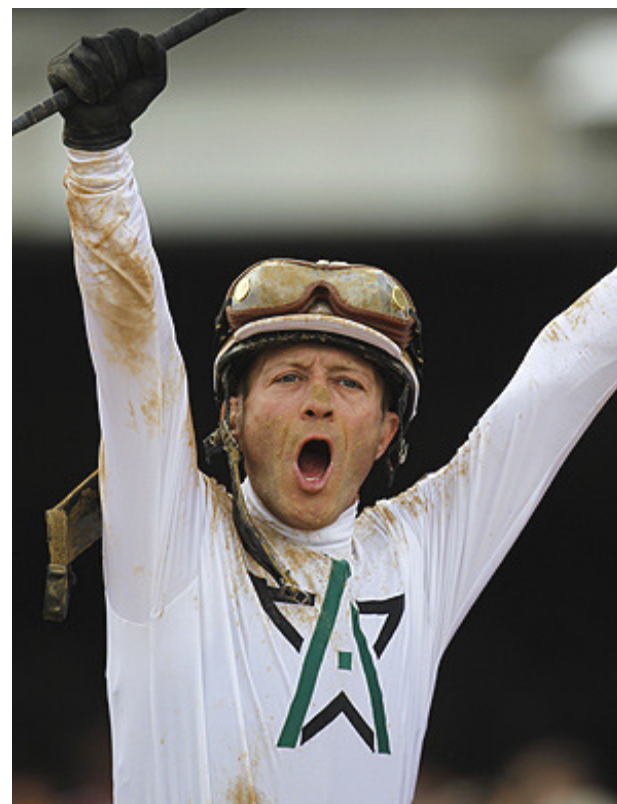
Jockey racing...

- **Could racing gain more fans, more bettors, more interest through the marketing of jockeys?**
- **Can advanced statistics focused on jockey performance serve as a bridge to other sports fans and bettors?**
- **Can we create Sabermetric-like methods to quantify performance beyond W-P-S%?**





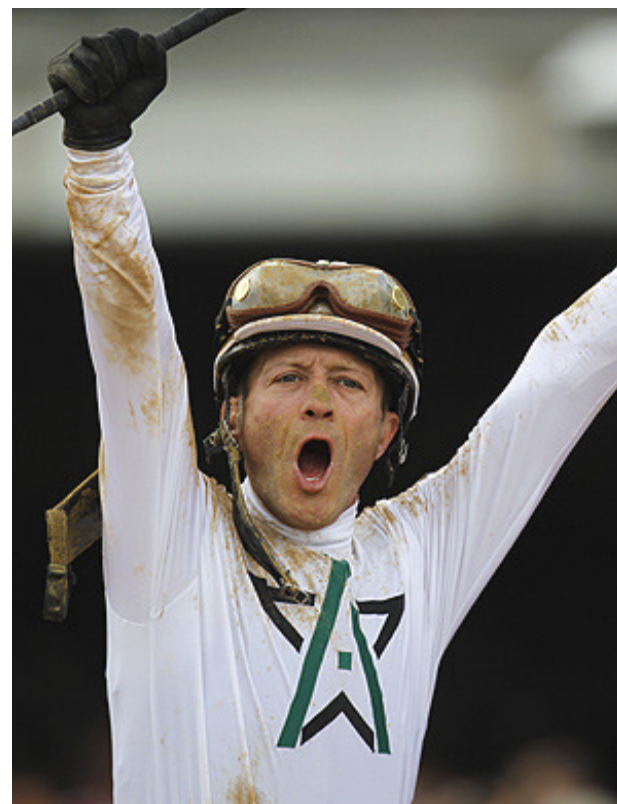
Borel.





Borel.

Bo-rail?



Keeneland – Does ground loss matter?

6 Furlongs - Poly

Finish	Avg Feet Traveled
1st	3997
2nd	4001
3rd	4001
4th	4001
5th	4002
6th	4002
7th	4003
8th	4004
9th	4005
10th	4005
11th	4008
12th	4007

1 1/16 Miles - Poly

Finish	Avg Feet Traveled
1st	5682
2nd	5683
3rd	5687
4th	5688
5th	5691
6th	5691
7th	5693
8th	5695
9th	5695
10th	5695
11th	5692
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- Obtain total ground coverage, sorted by finishing position

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- Obtain total ground coverage, sorted by finishing position
- Winners covered shortest trip (most efficient)
- As finishing positions increased, so did ground coverage

Keeneland – Ground coverage by starting gate

6 Furlongs - Polytrack

Post	Feet	Delta	Lengths
1	3992	-	-
2	3995	3	0.35
3	3996	4	0.47
4	3998	6	0.71
5	4002	10	1.18
6	4004	12	1.41
7	4007	15	1.76
8	4007	15	1.76
9	4011	19	2.24
10	4014	22	2.59
11	4015	23	2.71
12	4017	25	2.94

1 1/16 Miles - Polytrack

Post	Feet	Delta	Lengths
1	5671	-	-
2	5675	4	0.47
3	5680	9	1.06
4	5685	14	1.65
5	5688	17	2.00
6	5694	23	2.71
7	5696	25	2.94
8	5699	28	3.29
9	5703	32	3.76
10	5708	37	4.35
11	5709	38	4.47
12	5709	38	4.47

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10	4014	22	2.59
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1	5671	-	-
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3	5680	9	1.06
4	5685	14	1.65
5	5688	17	2.00
6	5694	23	2.71
7	5696	25	2.94
8	5699	28	3.29
9	5703	32	3.76
10	5708	37	4.35
11	5709	38	4.47
12	5709	38	4.47

Keeneland – Ground coverage by starting gate

6 Furlongs - Polytrack

Post	Feet	Delta	Lengths
1	3992	-	-
2	3995	3	0.35
3	3996	4	0.47
4	3998	6	0.71
5	4002	10	1.18
6	4004	12	1.41
7	4007	15	1.76
8	4007	15	1.76
9	4011	19	2.24
10	4014	22	2.59
11	4015	23	2.71
12	4017	25	2.94

1 1/16 Miles - Polytrack

Post	Feet	Delta	Lengths
1	5671	-	-
2	5675	4	0.47
3	5680	9	1.06
4	5685	14	1.65
5	5688	17	2.00
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Keeneland – Jockey Efficiency Ratings

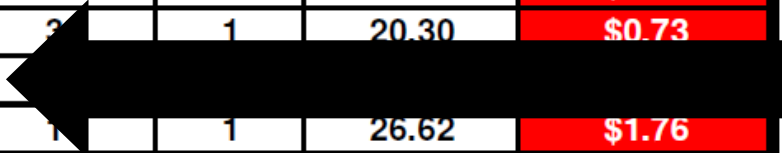
RANK	JOCKEY	AVG DELTA	MOUNTS	WINS	AVG ODDS	ROI
1	Graham, J	-6.50	86	12	13.46	\$2.29
2	Saez, G	-4.44	18	2	20.18	\$1.66
3	McKee, J	-3.88	17	0	21.53	\$0.00
4	Lenclud, F	-3.46	33	1	20.30	\$0.73
5	Alvarado, J	-2.24	25	1	11.15	\$0.27
6	Theriot, J	-1.35	14	1	26.62	\$1.76
7	Leparoux, J	-0.89	103	23	4.70	\$1.87
8	Prado, E	-0.38	35	3	14.14	\$2.79
9	Mena, M	-0.37	40	4	20.35	\$1.28
10	Lanerie, C	-0.30	50	5	14.01	\$1.32
11	Castellano, J	0.34	35	7	5.88	\$4.18
12	Cruz, M	0.88	29	2	14.34	\$0.47
13	Castanon, J	1.11	37	4	16.12	\$1.85
14	Court, J	1.77	22	5	27.09	\$6.74
15	Gomez, G	2.43	32	3	6.53	\$0.94
16	Albarado, R	2.55	61	5	10.41	\$0.86
17	Sellers, S	3.25	20	3	23.06	\$3.17
18	Pedroza, M	4.64	29	3	30.22	\$7.54
19	Hernandez, B	4.75	21	1	19.40	\$0.48
20	Bridgmohan, S	4.89	28	4	10.23	\$1.57
21	Lebron, V	5.52	20	1	19.80	\$0.82
22	Borel, C	7.20	26	2	14.83	\$1.43
23	Desormeaux, K	7.40	27	6	8.13	\$4.32
24	Creed, B	8.56	16	0	28.81	\$0.00

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Covering extra ground.

Bo-rail? Not at Keeneland

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- Borel's mounts at Keeneland covered 7.2 feet (~0.8 lengths) more than average, 22nd widest-riding jockey in four-meet study
- Subsequent study of Churchill races yielded result that Borel saved most ground in 1 1/16m dirt races (~1.1 lengths)

Is racing wider better at Woodbine?

Feet Traveled - Finishing Position		
FINISH	Keeneland	Woodbine
1st	5682	5692
2nd	5683	5692
3rd	5687	5692
4th	5688	5692
5th	5691	5691
6th	5691	5691
7th	5691	5690
8th	5693	5690
9th	5695	5690
10th	5695	5691
11th	5692	5696
12th	5690	5696

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Woodbine - 1 1/16 Miles - AW - Top 5 Winningest Jockeys

Jockey	Avg Delta	Mounts	Wins	\$2 ROI	Avg Odds
Contreras, L	7.41	365	93	\$2.27	5.3
DaSilva, E	-5.23	253	52	\$1.94	5.6
Wilson, E-J	3.11	261	44	\$1.84	7.27
Campbell, J	-2.23	255	43	\$2.15	10.1
Husbands, P	9.97	195	42	\$1.40	3.96

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Saving more ground when winning

Woodbine - 1 1/16 Miles - AW - Top 5 Winningest Jockeys

Jockey	Avg Delta	Delta in Wins	Odds in Wins	Delta in Non-Wins	Odds in Non-Wins
Contreras, L	7.41	7.32	3.45	7.43	5.94
DaSilva, E	-5.23	-5.74	3.72	-5.09	6.08
Wilson, E-J	3.11	0.47	4.44	3.66	7.85
Campbell, J	-2.23	-5.69	5.37	-1.54	11.06
Husbands, P	9.97	11.19	2.25	9.64	4.43

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- Overall, four of the five most successful jockeys covered similar or more ground-saving trips when winning compared to all other mounts

New ways to look at numbers

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- **The foundational elements for advanced data within racing are progressing.**
- **Are we marketing racing as a data mine, rich in potential resources?**
- **Can we better engage racing's relatable human participants, and define new paths for data exploration?**

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New Ways to Look at Numbers

*Moneyball, analyzing between the
"lines", and jockey racing...*

*UA-RTIP Global Symposium on Racing & Gaming
December 2013*