

By the Numbers

The Newsletter of the Statistical Analysis Committee of the Society for American Baseball Research

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COMMITTEE NEWS

Don't forget that SABR XX is rapidly approaching. I hope to see many of you there for the convention and for the Statistical Analysis Committee meeting at 12:15 PM on Saturday. Locations for the committee meetings will be announced at the convention.

Also, we are sponsoring a research presentation session at the convention; the specific time and location will be announced in the final convention program, which will be available on-site in Cleveland. If you can't be there for the convention, short versions of the presentations will be published in the September newsletter.

This is my every-issue plea for more material. If you have something in mind which you think might be interesting, let me know. We need stuff as soon as possible for future issues.

This is also my every-issue reminder about the bibliography project. As we outlined it in the last issue of the newsletter, we are going to try to develop a classified bibliography of articles or books about baseball which use statistical analysis. Right now, we need volunteers to classify material from specific publications. If you have a complete set of one of the following, and want to classify articles using statistical analysis in it, please let me know:

The Bill James Baseball Abstracts.

The Bill James Baseball Abstract Newsletter.

The Elias Baseball Analysts.

The Baseball Research Journal.

The Baseball Analyst.

The SABR Metric Review.

If you know of other periodicals or annuals which should be added to this

list, let me know. We will also be working on classifying material from other sources, such as books, one-time publications, etc. This is a major project and we need your help and cooperation.

Finally, if you have any ideas for the committee, please let me know.

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BATTING EYE INDEX REVISITED

By Jonathan L. Katz

Cappy Gagnon describes the derivation of his Batting Eye Index (BEI), which is designed to put a quantitative value on a player's ability to avoid strikeouts and to draw walks in the Baseball Research Journal (Vol. 17, pp. 6-9).

BEI is calculated by subtracting strikeouts from walks and dividing the results by games played, or

$$BEI = (W-K)/G.$$

His article compares lifetime and single-season values for BEI and finds several confirmations of conventional wisdom (e.g., that Ted Williams is the lifetime BEI leader) and several interesting comparisons (e.g., that Ferris Fain has a value of BEI that exceeds that for more celebrated players such as Lou Gehrig, Jackie Robinson, and Joe Morgan).

In examining this statistic, I began to think that games was a curious denominator in the formula, since the number of opportunities for a walk of a strikeout (plate appearances) can vary from

Table 1: BEI, BEI2, and BEI3: Top 40 Lifetime Rankings

Player	Lifetime BEI	Player	Lifetime BEI2	Player	Lifetime BEI3
Williams	0.572	Williams	0.135	Sewell	0.762
Fain	0.558	Fain	0.133	Bassler	0.687
Bishop	0.524	Bassler	0.129	Speaker	0.678
Stanky	0.494	Bishop	0.124	Collins	0.618
Bassler	0.439	Stanky	0.117	Cochrane	0.596
Collins	0.439	Valo	0.110	Holmes	0.595
Cochrane	0.432	Cochrane	0.106	Fain	0.549
Speaker	0.426	Evers	0.106	Vaughan	0.545
Evers	0.406	Speaker	0.102	R. Ferrell	0.541
Blue	0.406	Cullenbine	0.096	Vitt	0.539
Sewell	0.384	R. Ferrell	0.094	Valo	0.537
Cullenbine	0.384	Blue	0.094	Gehringer	0.522
Valo	0.365	Sewell	0.092	Pesky	0.505
Vaughan	0.364	Vaughan	0.087	Anson	0.504
Gehringer	0.350	Galan	0.085	Waner	0.487
Pesky	0.350	Collins	0.083	Cobb	0.459
R. Ferrell	0.347	Pesky	0.082	Stanky	0.454
Galan	0.336	Gehringer	0.081	Boudreau	0.441
Gehrig	0.332	J. Robinson	0.080	Bishop	0.437
Yost	0.329	Pearson	0.079	Ruel	0.436
J. Robinson	0.325	Vitt	0.078	J. Robinson	0.435
Hack	0.323	Yost	0.077	Blue	0.429
Morgan	0.321	Gilliam	0.076	Gilliam	0.427
Appling	0.320	Appling	0.076	Galan	0.427
Gilliam	0.317	Morgan	0.076	Appling	0.423
Vitt	0.309	Gehrig	0.076	Pearson	0.420
Boggs	0.307	Hack	0.075	Combs	0.414
Cobb	0.301	Etten	0.074	Etten	0.414
Etten	0.300	Lake	0.074	Hack	0.402
Musial	0.298	Ott	0.073	Musial	0.393
Ott	0.297	Musial	0.072	Myer	0.385
Randolph	0.296	Ruel	0.072	Hooper	0.381
Boudreau	0.296	Boudreau	0.071	Cullenbine	0.362
Ruth	0.290	Cobb	0.071	Ashburn	0.354
Ashburn	0.286	Boggs	0.070	Boggs	0.345
Pearson	0.285	Ruth	0.069	Gordon	0.345
Hooper	0.282	Randolph	0.069	Randolph	0.333
Waner	0.281	Waner	0.068	Werber	0.318
Lake	0.280	Myer	0.067	Gehrig	0.313
Myer	0.279	Gordon	0.066	Ott	0.312
Mean (Top 50)	0.338	Mean (Top 50)	0.082	Mean (Top 50)	0.438
Std. Dev.	0.079	Std. Dev.	0.020	Std. Dev.	0.119
BEI = (W-K)/G.		BEI2 = (W-K)/(AB+W)		BEI3 = (W-K)/(W+K)	

one game to the next. Therefore, I calculated several variations of BEI. BEI2 uses as the denominator At-Bats plus Walks, as a measure of plate appearances, and is written

$$BEI2 = (W-K)/(AB+W)$$

When I compare BEI2 to BEI (Gagnon's Index), the results are fairly similar (see Tables 1 and 2), since any estimate of plate appearances over a player's career is likely to be highly correlated with games played. Williams still has the career high value, followed by Ferris Fain; however, there were several changes in the lower ranking. Notable changes include increases in rankings for Elmer Valo, Rick Ferrell, Albie Pearson, Eddie Lake, and Muddy Ruel. Notable decreases in rankings include Eddie Collins, Lou Gehrig, and Wade Boggs. The correlation between BEI and BEI2 is 0.88.

Another approach is to divide the difference between walks and strikeouts by the number of times the batter "exercises his batting eye." One formulation of this concept divides the difference between walks and strikeouts by the sum of walks and strikeouts, or

$$BEI3 = (W-K)/(W+K).$$

The lifetime leaders in BEI3 are also shown in Table 1.

BEI3 is a modification of the strikeout-to-walk ratio (K/W), familiar in discussions of pitchers, and it varies from -1 (batters who never walk) to +1 (batters who never strike out). The advantage of looking at strikeouts and walks this way capitalizes on two aspects of the behavior of BEI3. First, the statistic shows symmetric behavior for excellent performances and for poor performances (Gagnon's BEI also exhibits this characteristic for players for whom the number of games played is equal)--a value of BEI3 of +0.75 is as good as a value of -0.75 is bad. The second advantage of BEI3 is that it generates absolutes upon which to judge an individual's performance. The limit of the statistic as strikeouts approach zero is 1.0; the limit as walks approach zero is -1.0. Any individual player can be judged according to how closely his per-

formance approaches one of these limits, rather than assessing performance relative to that of other players.

Interestingly, BEI3 displays large differences from the patterns found in BEI and BEI2. Most notable is that Ted Williams is no longer the BEI3 leader, a title that goes to Joe Sewel. Further, there is a significant gap between Sewel (0.762) and the second place Bassler (0.687). Williams drops to seventeenth on the list (0.480); Babe Ruth drops to 50th (not listed in Table 1, 0.214). The correlation between BEI and BEI3 is low, only 0.262.

Obviously, the claim that BEI3 normalizes the difference between strikeouts and walks by the number of times a batter "exercises his batting eye" is not entirely correct. Many of the judgements by the batter that a pitch is in the strike zone result in the ball being put in play. On other occasions, however, the ball is put in play when the batter is certain that the ball is not in the strike zone (e.g., on a hit-and-run play). Therefore, I would suggest that some index of judgements of pitch location by the batter should be assessed in relation to all such judgements. Appropriate statistics which follow from this position include ratios of strikeouts or walks to plate appearances. However, if these two ratios are related to each other in any normal fashion, such as subtracting one from the other, or by taking the ratio of one to the other, either complex set of terms can be reduced to the strikeout/walk ratio or to BEI2. Therefore, it may not be necessary to consider all those instances in which the ball is put in play.

BEI and BEI2 are highly correlated, obviously because games are highly correlated with plate appearances across a career. Why isn't the correlation between BEI and BEI3 also high? Obviously, we do something different when we divide by games played (or plate appearances) instead of by the sum of walks and strikeouts. While games and plate appearances are highly correlated, the sum of hits and walks varies dramati-

Table 2: Single Season Highs for BEI, BEI2, BEI3

Player	Year	BEI	Player	Year	BEI2	Player	Year	BEI3
Williams	1954	0.889	Williams	1954	0.199	Collins	1925	0.832
Williams	1941	0.825	Williams	1941	0.196	Cochrane	1935	0.730
Williams	1946	0.747	Valo	1952	0.174	Valo	1952	0.726
Williams	1947	0.737	Williams	1946	0.167	Evers	1910	0.714
Williams	1949	0.735	Williams	1947	0.167	Gehringer	1940	0.712
Evers	1910	0.720	Evers	1910	0.166	Collins	1918	0.698
Cochrane	1935	0.704	Williams	1955	0.163	Vaughan	1936	0.698
Stanky	1945	0.693	Bishop	1927	0.161	Williams	1951	0.686
Williams	1958	0.690	Cochrane	1935	0.160	Appling	1494	0.669
Williams	1950	0.685	Appling	1949	0.158	Galan	1947	0.664
Williams	1954	0.684	Williams	1949	0.157	Williams	1954	0.619
Appling	1949	0.683	Collins	1925	0.154	Blue	1929	0.595
Vaughan	1936	0.672	Galan	1947	0.154	Williams	1950	0.592
Collins	1925	0.669	Stanky	1945	0.151	Fain	1953	0.588
Williams	1951	0.669	Collins	1918	0.149	Williams	1955	0.583
Valo	1952	0.659	Williams	1951	0.147	Bishop	1927	0.579
Bishop	1927	0.658	Williams	1950	0.147	Williams	1946	0.560
Bishop	1929	0.651	Fain	1955	0.144	Stanky	1945	0.558
Gehrig	1935	0.631	Gehrig	1935	0.141	Gehrig	1935	0.553
Williams	1942	0.627	Vaughan	1936	0.141	Williams	1947	0.550
Fain	1953	0.625	Williams	1942	0.141	Williams	1949	0.543
Blue	1929	0.623	Stanky	1950	0.140	Williams	1951	0.524
Williams	1948	0.620	Bishop	1929	0.139	Williams	1949	0.509
Collins	1918	0.619	Gehringer	1940	0.136	Bishop	1929	0.488
Stanky	1950	0.618	Williams	1948	0.134	Stanky	1950	0.485
Galan	1947	0.605	Blue	1929	0.134	Williams	1942	0.480
Gehringer	1940	0.604	Williams	1958	0.096	Williams	1958	0.333

cally across players. However, both BEI and BEI3 are highly correlated across seasons for individual players through their careers. This suggests that the two statistics are related by a constant for each individual player and that this constant varies across individuals. That constant has to be related to a player's batting average, since the lack of correlation between games and the sum of strikeouts and walks is probably due to differences in hits (holding walks constant, sacrifices and HBP probably contribute little variation). Differences in batting averages across individuals, therefore, limit the correlation between BEI and BEI3. But BEI and BEI3 should be correlated for an individual player across his career.

One additional question about BEI3 is if it predicts any other offensive performance statistic. Neither lifetime BEI nor BEI3 is correlated with lifetime batting average ($r = 0.008$), slugging average ($r = 0.001$), or career longevity in years ($r = 0.001$) (correlations are between BEI and the stated performance measure, correlations with BEI3 were similar). Of course BEI may be predictive of some offensive statistic if all players were analyzed or across the career of a particular player.

Career data for annual BEI for Ted Williams are shown in Figure 1. After his first two seasons, Williams showed a large increase in BEI; it stayed high until 1952-53, the two years he served in Korea.¹ His BEI rose again in 1954 and then declined for the remainder of his career. Looking at walks and strikeouts individually, we find high walk rates (excluding 1952-53) that declined in his last few years. His strikeout rates were low (excluding 1953-52), but started to increase after 1955.

Despite the decline in BEI, his batting average remained high; he won batting titles in 1957 and 1958 and hit .316 in his last year. It is worth

1. The sample size--games played--is too small in these two years for the data to be meaningful.

noting that the correlation between annual BEI and annual BEI3 across Williams's career was 0.94..

Whether BEI has validity as a measure of "batting eye" could be determined by experiment. Values for BEI should show a corresponding change as a batter's vision changes. While we cannot do this as a formal experiment, we can conduct a "natural" experiment by examining whether BEI changes for players for whom changes in eyesight can be documented.² Although I have not examined all of these cases, Figure 2 shows annual BEI for Eddie Murray. (For Murray, the correlation between annual BEI and annual BEI3 is 0.99.)

After a big increase in BEI during his first several seasons, Murray shows a gradual increase in BEI from 1979 to 1986, after which there is a precipitous drop. Walks generally increased up to 1984, and then decreased through 1988, rising significantly after his trade to the Dodgers. His strikeouts bounce around quite a bit, but generally decrease, reaching a low in 1986, with subsequent increases. In 1987, when Murray's BEI dropped significantly, his walks decreased and his strikeouts increased. And when was it first suggested that Murray might benefit from wearing glasses?

There is another interesting aspect of the data for the frequency of strikeouts and walks among the lifetime BEI leaders identified by Gagnon. While the BEI leaders were selected for a large difference between walks and strikeouts, there is generally a direct relationship between walks and strikeouts among BEI leaders ($r = 0.522$; see Figure 3). This means that, at least among lifetime BEI leaders, the more they walked, the more they struck out. Furthermore, if we run

2. Editor's Note: Another "natural" experiment would be to compare BEI (or BEI2 or BEI3) for players whose home parks have notoriously poor hitting backgrounds, such as Shea Stadium, with those for players whose home parks have good hitting backgrounds.

Figure 1

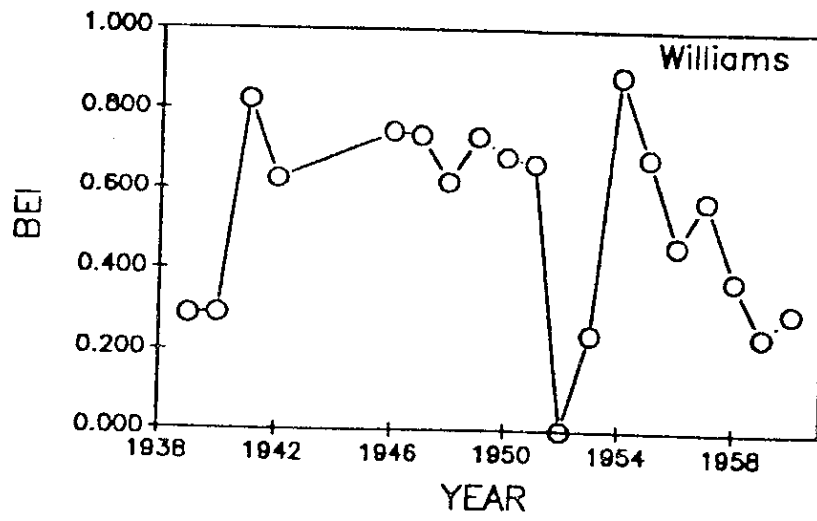


Figure 2

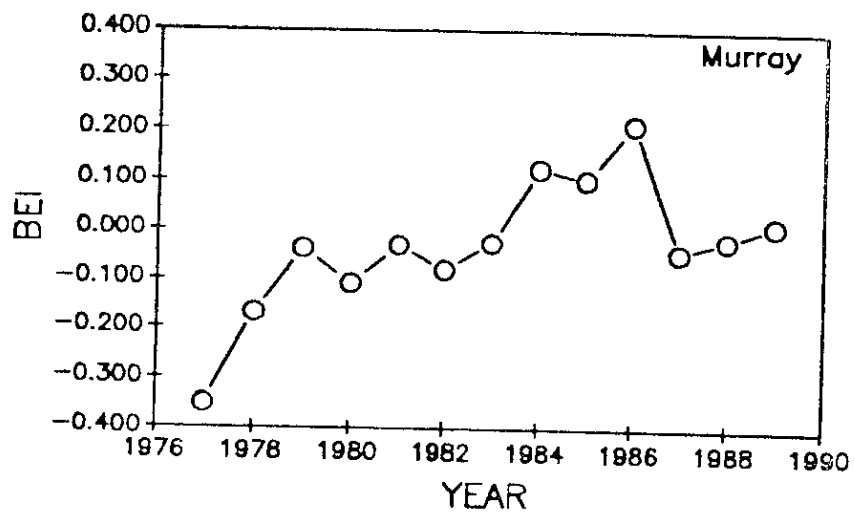
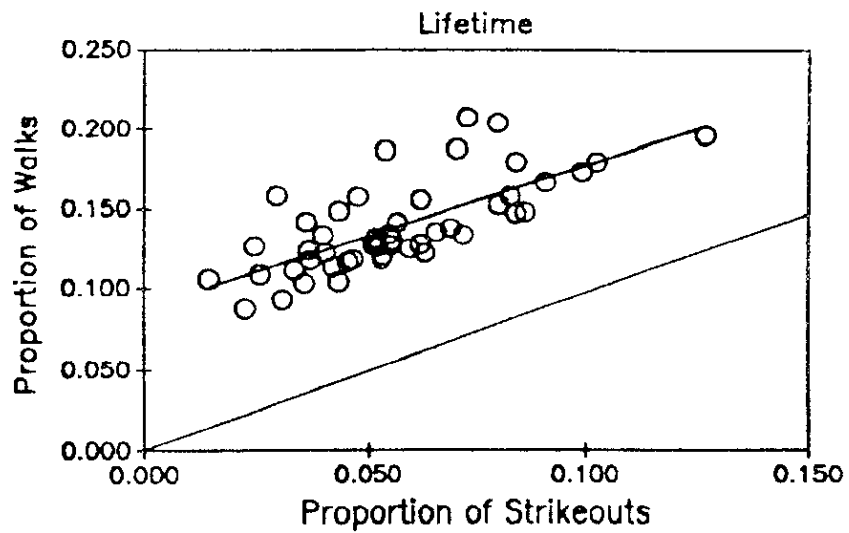


Figure 3



a regression of walks per plate appearance on strikeouts per plate appearance, the coefficient of strikeouts per plate appearance (the slope of the solid line in Figure 3) is approximately 1.1.

As with lifetime proportion of walks, the single-season proportion of walks was directly related to the single-season proportion of strikeouts, though not to the degree that it was for a player's career ($r = 0.298$). It seems that those who have a good eye "exercise" it and that this use of the batting eye may lead to an increase in strikeouts as well as an increase in walks. (See Table 3.)

When we look at BEI2 and BEI3 for individual seasons (also in Table 3), the patterns that emerge are similar to those for lifetime values. Williams has the single-season high for BEI2, and has several seasons near the top, although he also has a couple of seasons near the bottom of the list as well. Valo and Bishop both have single-season BEI figures well above their career numbers. For BEI3, Collins has the highest single-season mark, followed by Cochrane and Valo. Williams's best season ranks eighth, and has more of his seasons near the bottom.

It is unclear which of these statistics has more merit. On the one hand, as Gagnon noted in his BRJ article, the fact that Williams has the lifetime lead in BEI has some face validity. On the other hand normalizing by plate appearances seems a better approach than normalizing by the number of games. Last, normalizing by the number of walks plus strikeouts has the statistical advantages noted above, and normalizes the difference between walks and strikeouts by an approximation of the number of times the batter exercised his batting eye.

BIRTHDAYS: MOTIVATION FOR ENHANCED HOME-RUN PERFORMANCE?

By Herman Krabbenhoft

Over the past several years, there has been a great deal of interest in, and research on, the topic of clutch performance by batters on the baseball diamond.¹ The bottom-line question is: "With the game on the line, which batters can motivate themselves to perform better than they would if the game were not at a crucial (do-or-die) point?"

Motivation--perhaps the key ingredient of all performance.

What else--besides the crucial point in a (critical) game--could serve to motivate a player to perform above the norm? A couple of possibilities readily come to mind--such as a request from (or a dedication to) a special person (e.g., a kid dying in a hospital; a player's own spouse, child, or parent) to "hit a homer for me."² Another possibility is an inherently special date for the player (such as an anniversary).

In this article, the birthday performance of a select group of baseball players is examined. The object of this investigation was to determine which players performed significantly better (in terms of slugging home runs--perhaps the most special individual event for a player) on their own (most?) special day relative to any other (average) day.

1. See, for example, J. Rasmussen, By the Numbers, 1:2, p. 3; R. Wood, By the Numbers, 1:3, p. 4; P. Palmer, By the Numbers, 2:2, p. 6; T. Conlon, By the Numbers, 2:2, p. 8.
2. A very recent example of such an event is the 1990 opening day performance of Sam Horn of the Baltimore Orioles--he went 4 for 5 with two homers and 6 RBIs. In a newspaper account of the game (a 7-6 victory over the Royals), Horn indicated that the homers were for his mother who was recovering from a stroke [H. Bodley, USA Today, Sec. C, p. 1, April 10, 1990].

Before getting involved with the baseball results, it's appropriate to point out that sociologists and psychologists have shown that many people are very strongly motivated to achieve positive results (or to avoid negative results) on their birthdays.³ Extending this to the baseball diamond should be relatively straightforward: Birthdays are special to almost everyone--hardly anyone forgets his birthday (even is one doesn't want to be reminded that it means "another year"), although the degree of specialness may be attenuated by the passage of time.

The starting point for this study was an interview with Eddie Joost. In connection with research on "ultimate grand slams," the following question was posed to the former Athletics shortstop: "What was your most memorable day in baseball?" Joost responded, "I had a great day (in a doubleheader in Cleveland) on my birthday (June 5,) in 1949; I hit a couple of home runs (a third inning blast off Bob Feller in the first game, making the score 1-0; and a third inning shot of Satchel Paige in the second contest, tying the score 1-1, and my children were there."⁴

Who else has slugged homers on his birthday? Who has blasted the most birthday bashes? Which players have shown a knack for collecting circuit clouts on their birthdays? These were some of the questions that raced through my mind during the Joost interview. In this article, I provide answers to these questions.

The criteria for selecting players for this study were (1) 300 or more lifetime home runs and (2) a birthday during the abseball season. As it turns out, of the 62 players who have reached

the seats 300 or more times during their careers, just 25 were born during the baseball season. Unfortunately, among the players excluded are the two leading career home-run hitters (Henry Aaron and babe Ruth). Nonetheless, the 25 who did qualify comprise an impressive list of players--11 are already in the Hall of Fame and several others are probably good candidates for a Cooperstown plaque when they become eligible.

Table 1 presents the career totals of the birthday performances for the 25 players in this survey.^{5,6} Inspection of Table 1 provides answers to the following questions:

(1) Do home run hitters also hit home runs on their birthdays? Perhaps not surprisingly, it would seem that almost all (22 out of 25) of these players have connected for homers on their birthdays.

(2) Who has the most birthday bashes? All Simmons, who collected five.

(3) Who has the best birthday home run percentage? Duke Snider, with only 8.3 at-bats per birthday bash, a figure 53% better than his career AB/HR ratio of 17.6. Simmons, on the other hand, assembled the biggest absolute AB/HR percentage, 11.4 AB/HR on his birthday compared to 28.6 on all other days, an improvement of 17.2 AB/HR (a 60% improvement).

Besides these interesting facts, two other interesting findings surfaced:

(1) Half (13 of 25) of the players achieved poorer (higher) AB/HR ratios on their birthdays than for their entire careers. Among these were Rogers Hornsby and Reggie "Mr. October" (but certainly not "Mr. May 18") Jackson;

3. See, for example, H.K. Fischer and B.M. Olin, *Psychometrics*, V32, p. 170 (1972); D.P. Phillips and K.A. Feldman, *American Sociological Review*, V38, p. 678 (1973); and P.R. Kunz and J. Summers, *Omega*, V. 10, p. 281 (1980).

4. H. Krabbenhoft, *Baseball Quarterly Reviews*, 3:4, p. 202, 1988.

5. For complete game-by-game results and discussion, the original review (from which the present article is adapted) should be consulted [H. Krabbenhoft, *Baseball Quarterly Reviews*, 5:1, p. 1, 1990].

6. Editor's Note: The table presented here has been limited to home-run data. Readers interested in complete birthday performance data should send a SASE to Don Coffin, at the address on p. 1.

neither of them managed to collect even one birthday bash. Two other players with relatively very high AB/HR ratios for their birthday homers were Carl Yastrzemski (76.0) and Darrell Evans (52.0).

Table 1: Composite Birthday Records for the 300-Homer Club Members

Player	Birth Date	G	HR	AB/HR	Career AB/HR
GCarter	4/8/54	6	1	21.0	23.7
RHornsby	4/27/95	11	0	----	27.2
WMays	5/6/31	16	3	17.0	16.5
YBerra	5/12/25	9	3	12.7	21.1
TPerez	5/14/42	16	4	15.5	25.8
RJackson	5/18/46	15	0	----	17.5
ASimmons	5/22/02	15	5	11.4	28.6
DaEvans	5/26/47	16	1	52.0	21.7
DParker	6/9/51	12	1	45.0	26.9
BWilliams	6/15/38	14	3	14.3	21.9
LGehrig	6/19/03	13	4	13.2	16.2
DBaylor	6/28/49	8	2	15.5	24.3
HKillebrew	6/29/36	12	2	18.0	14.2
ADawson	7/10/54	9	3	13.3	22.7
FHoward	8/8/36	12	3	13.7	17.0
RColavito	8/10/33	12	3	14.0	17.4
BPowell	8/17/41	12	2	21.0	19.7
GNettles	8/20/44	13	3	14.3	23.0
CYaz	8/22/39	21	1	79.0	26.5
TWilliams	8/30/18	16	3	17.7	14.8
FRobinson	8/31/35	17	2	31.0	17.2
OCepeda	9/17/37	9	1	33.0	20.9
DSnider	9/19/26	12	4	8.3	17.6
MSchmidt	9/27/49	14	2	23.0	15.3
DWinfield	10/3/51	4	0	----	23.6

(2) Overall, these 25 home run sluggers blasted 56 birthday bashes, yielding a composite birthday AB/HR ratio of 19.8, a value which is virtually the same as the composite ratio (20.0) calculated for all days.

These results suggest that on average no special success in slugging round trippers on birthdays was achieved by baseball's top career home run hitters. Individually, however, there were several players who had substantially

better home run performance on their birthdays compared to an average day.

Moreover, focusing on batting average leads to a little different picture. While only 12 players assembled birthday batting marks higher than their career averages, the composite birthday figure of .305 was somewhat higher than the .288 put together on all days.⁷ So maybe birthdays can/did function to self-motivate (subconsciously?) some players, such as Frank Robinson, Andre Dawson, and Lou Gehrig to perform somewhat better on their birthdays than on other days. In order to corroborate this finding, a much larger data base (comprising a more equitable distribution of players from each of the 12 decades of major league history) will be required.⁸

Two final items are worth mentioning:

(1) Of the 56 birthday clouts powered by the 25 players in Table 1, 30 were solo shots, 21 were two-run clouts, and five were three-run blasts. NONE were grand-slams. Indeed, inspection of the record books has shown that very few players have achieved the "grandest" of birthday bashes--since 1876 there have been only 7 players who connected for a grand slam homer on their birthdays--Joe Jackson of the Chicago White Sox in 1920; Frank Thomas of Pittsburgh in 1956; Julian Javier of St. Louis in 1961; Bill Mazeroski of the Pirates in 1966; Ted Simmons of the Cardinals in 1974; Wayne Nordhagen of the White Sox in 1979; and R.J. Reynolds of the Bucs in 1986.

(2) Only two of the players in Table 1 enjoyed birthday celebrations in which they had multiple homer games--Duke Snider (who twice had a pair of homers on his birthday) and Billy Williams (who also accomplished the feat twice). It is also worth noting that Tony Perez had a two-homer birthday in 1972--he smashed

7. Editor's Note: The difference of .017 is probably not statistically significant, amounting to a difference of only 19 hits--less than one per player.

8. H. Krabbenhoft, in preparation.

the ball over the wall in each game of a double-header. A check of the record books has revealed that none of the players who has slugged three or four homers in a game did so on his birthday.

We can conclude that investigating the topic of collecting homers on one's birthday has produced some interesting results. Overall, it appears that baseball's top career home run hitters did not evince any special long-ball success on their birthdays, although individually some players were quite prolific in blasting birthday bashes. Whether or not there is a significant motivational factor on a player's birthday performance in terms of batting average will require some more research.

[Herman Krabbenhoft is the Editor and Publisher of Baseball Quarterly Reviews. A one-year (four-issue) subscription may be placed by sending a check for \$20 to Baseball Quarterly Reviews, P. O. Box 9343, Schenectady, NY 12309.]

DYKSTRA'S SWATTING, BUT IT'S TOO SOON TO SWOON

By Pete DeCoursey

Two histories surround any player chasing after a great baseball record, baseball's and his own. If baseball history is our guide, Len Dykstra has an excellent chance of winning the batting title, is a lock to hit .300, and has a 75% change of being inducted into the Hall of Fame at Cooperstown. If Len Dykstra's history determines his fate, he has an excellent chance to finish this season hitting .275.

Len Dykstra's summers alternate between fire and ice, between swat and swoon. He has spent 28 months over the past 5.3 seasons playing major league baseball. In ten of those months, he has swatted over .300. In ten he has swooned beneath the .251 mark. Len Dykstra's career, like his personality, is made up of extremes.

As Dykstra's hit total has climbed higher and higher, the questions about him have changed as noticeably as his

batting average. At the beginning of the season, there were questions about his ability to play every day and hit left-handers. Now there's a new set of questions about Len Dykstra, .400 hitter.

1) What about Dykstra's past performance record? Has he been a hot first-half hitter before? What has he done throughout his career in the season's second half?

In fact, his chances of hitting just .268 (his lifetime BA) after July 1 are not good. For his career, Dykstra is a lifetime .295 until the end of June and a .250 hitter thereafter. Table 1 gives us the numbers.

Table 1: Dykstra in the First and Second Halves of the Season, 1985-1989 (Excludes 1990)

Batting Category	Before July 1	After June 30
AB	834	1204
H	246	301
2B	52	72
3B	11	9
HR	16	18
BB	83	76
BA	.295	.250
SA	.441	.379

While the dropoff is noticeable throughout Dykstra's career, it was not as prominent in his first three seasons (see Table 2).

Table 2: Dykstra in the First and Second Halves of the Season, 1985-1987		
Batting Category	Before July 1	After June 30
AB	411	687
H	121	189
2B	24	49
3B	7	6
HR	9	10
BB	41	28
BA	.294	.275
SA	.453	.408

A noticeable difference, to be sure, but not a remarkable decline. Here's a remarkable decline:

Table 3: Dykstra in the First and Second Halves of the Season, 1988-1989 (Excludes 1990)		
Batting Category	Before July 1	After June 30
AB	423	517
H	125	112
2B	28	23
3B	4	3
HR	7	8
BB	42	48
BA	.296	.217
SA	.430	.319

Now that all Dykstra's Rotisserie owners have rushed off to trade him while they still can, it's important to note that his basic production pattern hasn't changed. As the month-by-month batting chart shows, peaks and valleys are Len Dykstra's way of life. For the last two seasons, he has simply put his best bat forward until July, and then saved his worst for last. A closer look at his career production record, and month-by-month batting charts will make this clearer.

Table 4: Dykstra, Month-by-Month				
Month	Batting Average			
	1986	1987	1988/9	1990
April	.327	.250	.346	.328
May	.221	.358	.240	.431
June	.397	.247	.314	.385*
July	.291	.294	.267	
August	.252	.259	.183	
Sept/Oct	.284	.305	.194	
*Through 6/17/90				

In every season, Dykstra's BA fell after July 1, dropping over fifty points in each of the last two years. Of course, if Dykstra hit 100 points less than his current average for the second half, that would be a more-than-acceptable .315 post-June batting average. Dykstra's recent record suggests, however, that .215 is more likely.

2) Has Dykstra ever done anything like this before?

He has come quite close. As you can see from the monthly batting chart, 1986 was Dykstra's dress rehearsal for 1990. In 1986 he hit .295, had a .377 OBA, and slugged .445 (for the season), with a .315 BA, .393 OBA, and a .410 SA in the first half. If we combine his April, June, and July in 1986, he was on a 71/197 tear, hitting .360 for those three months. Now .360 is not quite as impressive as .415, but it demonstrates that Len has been in the stratosphere before, and was perfectly capable of packing three great months with two awful ones.

Table 5: Dykstra in 1986				
Month	AB	BA	OBA	SA
April	55	.327	.413	.436
May	68	.221	.293	.270
June	58	.397	.470	.638
July	84	.357	.417	.619
Aug	89	.225	.307	.360
Sept	77	.273	.391	.364

For all his down-to-earth sweat and effort, Dykstra is not a solid .268 hitter. He is a Split Hitter. Right now he is swatting as he has never swatted before, and an equal and opposite swoon is probably on its way.

3) What is the magnitude of Dykstra's feat? Who has done it before? How did Len's predecessor's finish the season?

Since 1940, eight other everyday players have seen the calendar turn to June 10 on their .400 batting average. All of them won at least one batting title. Six of them won plaques in Cooperstown, and all of them finished the season they now share with Dykstra by batting over .300. Here is the exalted group which has now admitted Len Dykstra to its membership.

Table 7: .400 Hitters on June 10		
Player/Year	June 10 BA	Season BA
Carty 1975	.422	.366*
Carew 1983	.421	.339
D Walker 1944	.421	.357*
Carew 1975	.421	.359*
Musial 1958	.418	.337
Mays 1958	.416	.347
T Williams 1940	.416	.344
Aaron 1959	.411	.355*
B Williams 1964	.406	.312
Dykstra 1990	.407	????
*Batting Champion		

This list is the strongest argument that the Len Dykstra we've watched this season may be here to stay. If he's a fluke, he would have been the first fluke to hit this well for this long in fifty years.

4) What does Dykstra have to hit to finish at .300? Will he hit .300?

At this point, Dykstra has averages almost 4.2 at-bats per game. If he plays in 150 games, as reasonable assumption in light of his playing in 55 of the 56 games when he was not injured, he will finish with 630 at-bats or so.

He will need 189 hits to crack the .300 barrier. As of June 18, he was 89/230, so he would need to bang out 100 hits in his next 400 at-bats (exactly .250) for the remainder of the season to finish at .300. If he hits his career average for the second half of this season (107/400, .268), he will record a .311 average. If he hits .217 (87/400) for the rest of 1990, as he hit in 1988/9, he will finish at .279.

5) What does the rest of the season hold for Len Dykstra?

Throughout his career, Len Dykstra has alternated between fire and ice. While his bat has never been this white-hot before, it has cooled from considerable temperatures in the past. Dykstra's 1989 record suggests that the closer Leyva comes to giving Dykstra 600 at-bats, the farther Dykstra's BA will plunge. At 500 at-bats or so, his chance for .300 is still good. As his at-bats climb to and past 600, that chance decreases sharply.

It comes down to whether you believe in baseball's history, or in Dykstra's. The game's lore says that a decent-to-mediocre hitter cannot do this. His own career suggests otherwise, that this may be just another swat cycle, with a major swoon waiting in the on-deck circle.

Sources:

The Great American Baseball Statbook series.

The Elias Baseball Analyst series.

The Philadelphia Baseball File.

The Philadelphia Inquirer.

(Pete DeCoursey was the Associate Editor of John Benson's Rotisserie Baseball Analyst and edits the Philadelphia Baseball File, a newsletter about the Phillies in particular and major league baseball in general. He also contributes a weekly statistical feature to Jayson Stark's "Baseball Week in Review" column in the Philadelphia Inquirer. Anyone interested in future copies of the PBF should write Pete at 3257 Princeton Avenue, Philadelphia, PA 19149. Copies are \$5 each for 48 (or longer) issues.)