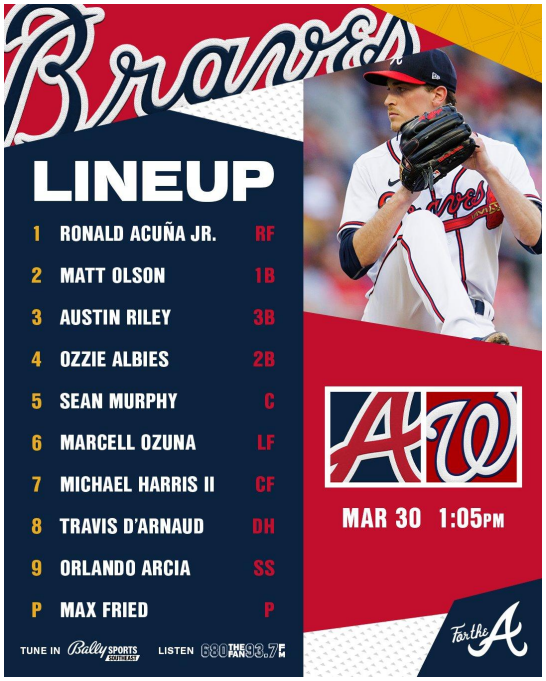
The Atlanta Braves' Player Evaluations:

An Examination of Position Player Qualities Valued by the Braves through their Recent Contract Extensions

By Chris Paik, Sam Chen, Michael Wang



In an era of long-term contract extensions, the Atlanta Braves are leading the way by committing 735 million dollars in the past five years, setting an unprecedented model for talent retainment. While extensions for top-tier talent, such as Mookie Betts, Mike Trout, and Manny Machado, have already become popularized, Atlanta stands out for their aggressive approach to young players with minimal service time. The main protagonists: Ronald Acuña Jr., Ozzie

Albies, Matt Olson, Austin Riley, Michael Harris II, Spencer Strider, and Sean Murphy (in order of contract date)

All seven players were signed to at least six-year extensions after two or fewer years with the organization. All home-grown talents, Acuña Jr., Ozzie Albies, Austin Riley, Michael Harris II, and Spencer Strider, were signed at 25 or younger. Through these major investments, the Atlanta Braves have firmly cemented themselves as contenders for the foreseeable future. From their 2023 Opening Day Lineup, all but one (Travis d'Arnaud) player are under contract for 2024 Opening Day as well. The years following may very well paint the same picture.

There are numerous factors that influence contract decisions, from home-grown/acquired talent to marketing considerations, and, of course, player performance or health. Traditionally, contract extensions are focused towards home-grown or top-tier talent only, carrying symbolic meaning. However, as discussed, the Atlanta Braves seem to have an entirely different agenda. Based on the long-term contract extensions, we hypothesized that the Atlanta Braves have a set of key qualities they are looking for in players' performance to capitalize on. These qualities would be good indicators of successful long-term performance or qualities that fit the Braves' organizational philosophy and direction. The cases of Matt Olson and Sean Murphy, who were extended before playing a single game for the Braves, support this hypothesis.

Background

In this study, we conducted a statistical analysis of the potential qualities the Braves could value in their players. To ensure cohesiveness, we focused on position players only, leaving out Spencer Strider. We also excluded Sean Murphy because catchers are commonly defined by factors outside of offensive production, such as pitch framing and steal prevention, which we will further discuss. Therefore, our sample population is the following five position players who signed at least six-year contracts with the Atlanta Braves in the past five years: Ronald Acuña Jr., Ozzie Albies, Matt Olson, Austin Riley, Michael Harris II.

We had two additional objectives for this study. First, analyzing the individual player profiles will reveal commonalities that signify particular qualities the Braves value. Regardless of the source — whether this is intrinsic to the player, learnt as part of the Braves' development program, or an anomaly — the fact that the Braves were willing to offer a long-term extension

		Terms of Contract			
Name	**Contract Date**	**Years**	**Guarantee**	**Age (at contract)**	**Position**
Ronald Acuña Jr.	4/2/19	8	$100,000,000.00	21	CF/RF
Ozzie Albies	4/11/19	7	$35,000,000.00	22	2B
Matt Olson	3/15/22	8	$168,000,000.00	28	1B
Austin Riley	8/1/22	10	$212,000,000.00	25	3B
Michael Harris II	8/16/22	8	$72,000,000.00	21	CF
Spencer Strider	10/22/22	6	$75,000,000.00	23	SP
Sean Murphy	12/27/22	6	$73,000,000.00	27	C

means that they find value in that quality. Second, analyzing the Braves' team statistics, what aspects they are focusing on or not focusing on improving, will show organizational direction. By comparing the individual player profiles and organizational direction, we looked to develop a more holistic picture of how the Braves' valued player qualities contribute to the team.

Methodology

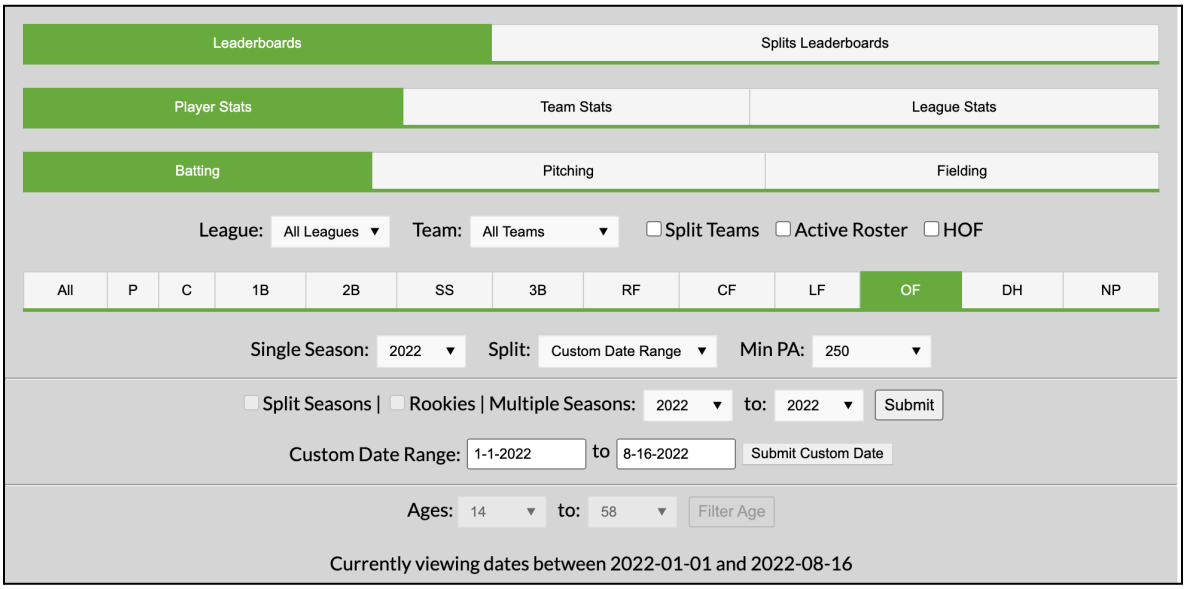
For the individual player profiles, we looked at three aspects of position players: offensive production, defense, and baserunning. We then further divided offensive production into plate discipline and contact quality. This allowed us to center on distinct batter qualities within the overall profile. We then compared individual statistics against the league in order to show how the Braves' players are unique. We used the following filters, courtesy of **FanGraphs**. All following rankings, comparison, and description of players' statistics are within the constraints of these filters.

1. **Time**: We used the period from when the player became a full-time regular to the date the extension was signed. Austin Riley and Michael Harris II signed their contracts mid-season, which means we included the date of the contract, August 1 and August 16, 2022, respectfully. This was to ensure that we were looking at the same numbers the Braves did when deciding to extend a contract. We acknowledge that there are discrepancies in the data set because we do not know when the actual offer was made or the internal circumstances preceding the contract.
   For the organizational direction, we looked at the same set of statistics, as detailed below. We focused on the 2022 season as a cumulative example of where the Braves extension decisions have led so far and the past five seasons (2018-2022) to see the trend of that progression.
2. **Position/Team**: We compared each player to players of the same position only, with outfielders being compared to other outfielders. We compared the Braves to other teams only.
3. **Plate Appearance**: A minimum plate appearance (PA) limit of 400 PA per season was used to filter offensive stats. For Ozzie Albies, this means a min. PA of 800 across two seasons (2017-2018). For Austin Riley and Michael Harris II, we set the 2022 season minimum PA as 250 PA to account for Harris II's call up (268 PA). Therefore, Riley's filters from 2021-2022 are min. 650 PA and Harris II's filters are min. 250 PA. We also adjusted Matt Olson's min. PA to account for the shortened 2020 season.
4. **Age:** We included all players using FanGraphs basic filter of age 14-58.

   Here are the filter results for each player:

Name	Time	Position	min. PA
Ronald Acuña Jr.	2018	CF/RF	400
Ozzie Albies	2017-2018	2B	800
Matt Olson	2018-2021	1B	1500
Austin Riley	2021-8/1/2022	3B	650
Michael Harris II	-8/16/2022	CF	250

Here are Michael Harris II's filters as an example.



Using these filters, we compared our batters against the rest of the league to identify how they stand out. Instead of traditional stats, such as Batting Average (AVG), the now-popularized Wins Above Replacement (WAR), or counting stats, we focused on statistics that offer insight into a batter's actual skill in plate discipline and contact quality, that we can still generalize to understand an offensive profile.

Results

As a result, we found significant trends in **Walk-to-strikeout ratio (BB/K)** and **Isolated Power (ISO)**. We opted to use **ISO+**, which is ISO adjusted to reflect league and ballpark conditions, then scaled to 100 as the league average. BB/K is an indicator of plate discipline, with a higher BB/K being better, meaning more walks compared to fewer strikeouts. ISO+ is an indicator of contact quality, with a higher ISO+ meaning better, stronger contact and more power.

For all five batters, we observed they had excellent ISO+ but below-average BB/K. Notably, out of 100 batters, Michael Harris II ranked 17th in ISO+ but 97th in BB/K.

#	Name	Team	PA	BB%	K%	BB/K	ISO	ISO+	AVG	OBP	SLG	wRC+	WAR
91	Bryan De La Cruz	MIA	261	5.4%	26.8%	0.20	.127	82	.205	.249	.332	64	-0.8
92	Randal Grichuk	COL	390	4.9%	24.6%	0.20	.158	102	.268	.308	.426	90	0.0
93	Nick Gordon	MIN	276	4.7%	23.9%	0.20	.146	98	.276	.321	.421	113	1.0
94	Brandon Marsh	- - -	357	6.7%	35.6%	0.19	.120	80	.228	.285	.349	78	1.0
95	Victor Robles	WSN	307	4.6%	25.4%	0.18	.084	54	.233	.291	.316	72	0.8
96	Raimel Tapia	TOR	312	3.2%	18.3%	0.18	.115	77	.274	.296	.389	94	0.3
97	Michael Harris II	ATL	268	3.7%	24.3%	0.15	.213	137	.287	.325	.500	128	2.7
98	Avisail Garcia	MIA	342	3.8%	27.8%	0.14	.090	58	.232	.269	.322	68	-0.4
99	Leury Garcia	CHW	288	2.4%	20.5%	0.12	.062	42	.212	.238	.275	42	-0.9
100	Chad Pinder	OAK	289	3.8%	32.5%	0.12	.164	110	.233	.260	.396	88	0.0

Austin Riley, one of the best offensive third basemen over the past two seasons, had an exceptional 158 ISO+, tied for 3rd out of 31 batters. However, even he has a lowly 0.30 BB/K, ranked just 25th.

To gain a better understanding of how the players compared to the rest of the league for these two statistics (ISO+ and BB/K), we created a scatterplot for each player.

ISO+ & BB/K

#	Name	Team	PA	BB%	K%	BB/K	ISO	ISO+	AVG	OBP	SLG	wRC+	WAR
1	Aaron Judge	NYY	500	13.2%	25.6%	0.52	.370	248	.297	.394	.667	195	7.6
2	Mike Trout	LAA	326	12.0%	29.8%	0.40	.330	221	.270	.368	.599	168	3.6
3	Yordan Alvarez	HOU	418	14.4%	19.4%	0.74	.321	215	.295	.400	.616	183	4.9
4	Byron Buxton	MIN	366	8.2%	30.6%	0.27	.314	210	.229	.306	.543	140	4.0
5	Kyle Schwarber	PHI	472	12.5%	30.5%	0.41	.289	187	.211	.314	.500	124	1.5
6	Giancarlo Stanton	NYY	328	10.7%	28.4%	0.38	.270	181	.228	.309	.498	127	1.3
7	Mookie Betts	LAD	454	8.8%	16.7%	0.53	.263	170	.273	.341	.536	146	4.7
8	Hunter Renfroe	MIL	334	7.5%	25.1%	0.30	.248	160	.242	.303	.490	119	1.4
9	Joc Pederson	SFG	309	8.7%	21.0%	0.42	.245	158	.253	.330	.498	131	0.9
10	Juan Soto	- - -	496	20.8%	13.9%	1.49	.231	149	.254	.414	.486	155	3.3
11	Teoscar Hernandez	TOR	369	6.5%	27.4%	0.24	.222	148	.265	.317	.487	128	1.7
12	Jack Suwinski	PIT	250	9.6%	30.4%	0.32	.230	148	.198	.288	.428	100	1.1
13	Kyle Tucker	HOU	437	11.4%	15.8%	0.72	.216	145	.250	.335	.466	128	3.4
14	Seth Brown	OAK	382	7.6%	24.1%	0.32	.211	142	.231	.293	.443	113	1.1
15	George Springer	TOR	395	9.4%	18.5%	0.51	.211	141	.254	.333	.465	127	2.7
16	Julio Rodriguez	SEA	426	6.8%	27.2%	0.25	.206	138	.270	.331	.476	133	3.5
17	Michael Harris II	ATL	268	3.7%	24.3%	0.15	.213	137	.287	.325	.500	128	2.7

Figure 1. Scatterplot BB/K vs ISO+ of All Outfielders in 2018 with a Minimum PA of 400

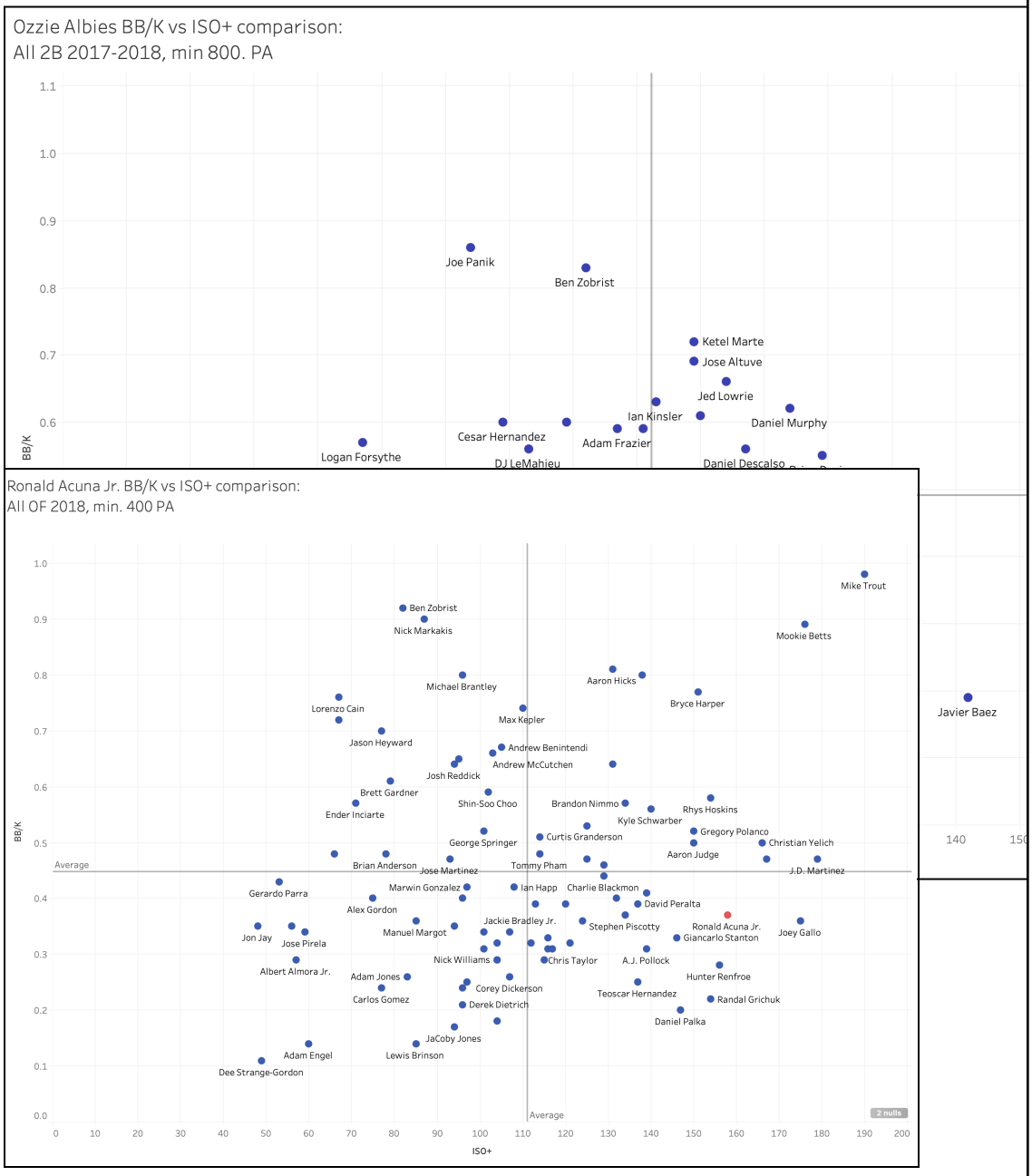


Figure 2. Scatterplot BB/K vs ISO+ of All Second Basemen between 2017 to 2018 with a Minimum PA of 800

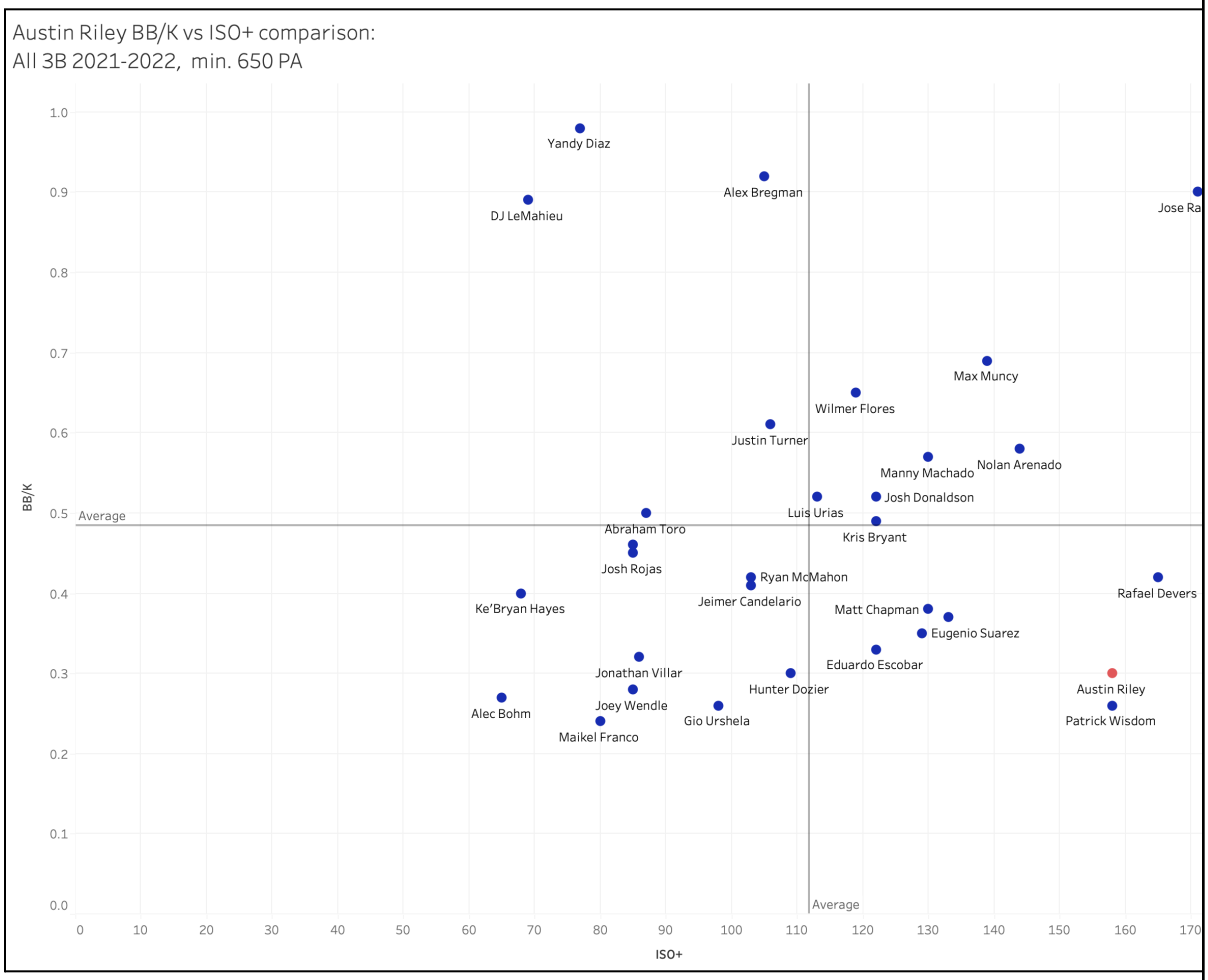


Figure 3. Scatterplot BB/K vs ISO+ of All Third Basemen between 2021 to 2022 with a Minimum PA of 650

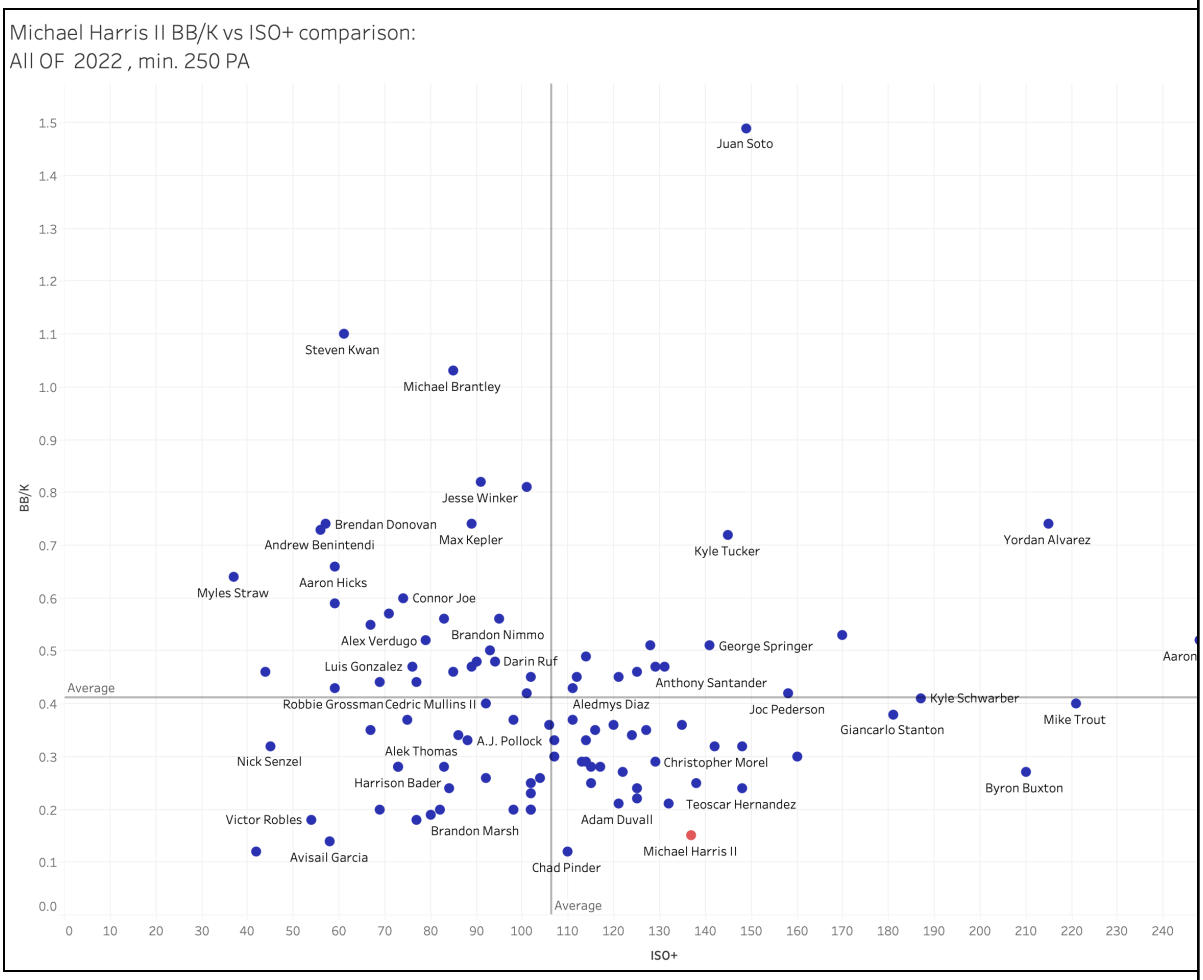


Figure 4. Scatterplot BB/K vs ISO+ of All Outfielders in 2022 with a Minimum PA of 250

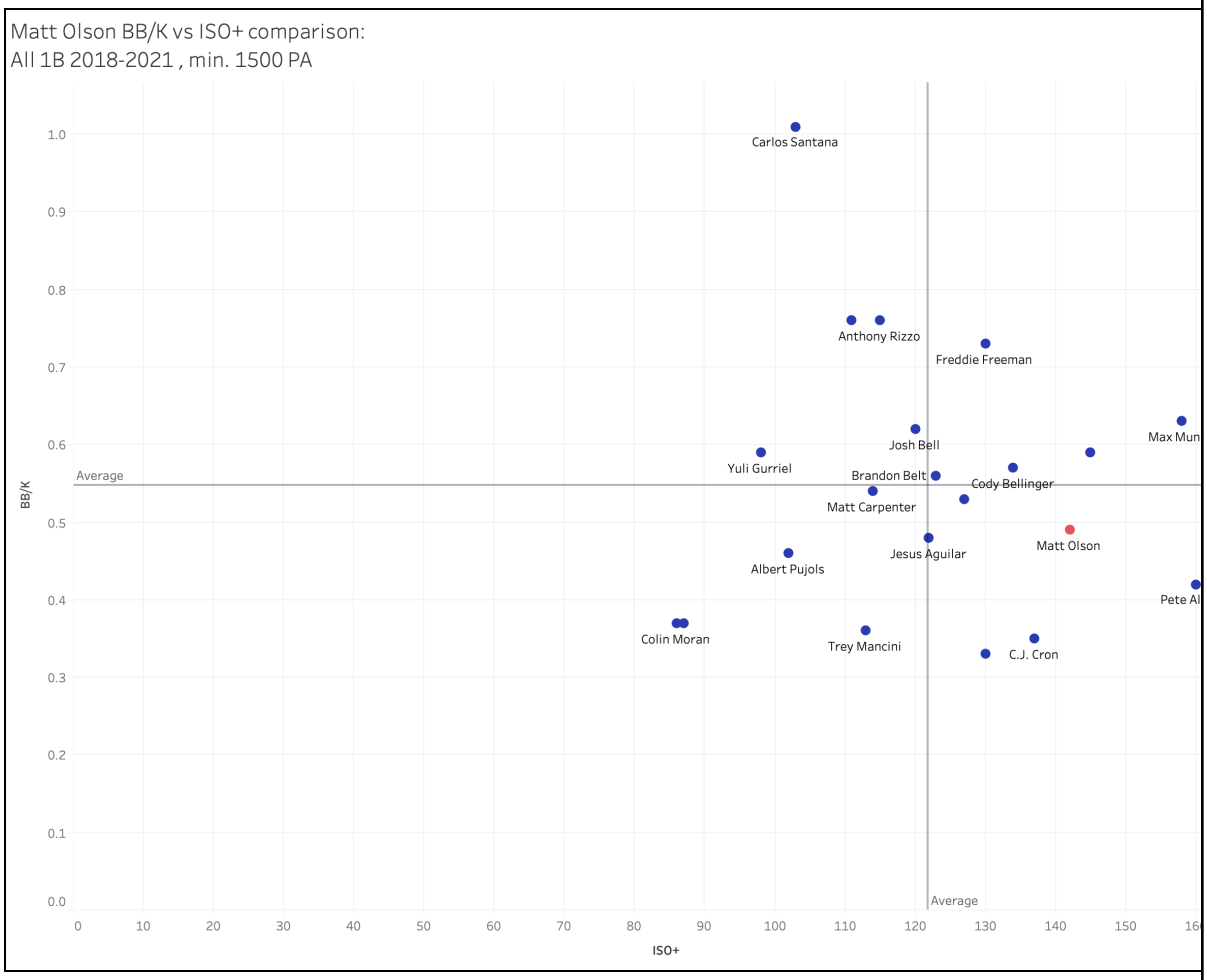


Figure 5. Scatterplot BB/K vs ISO+ of All First Basemen between 2018 to 2021 with a Minimum PA of 1500

As observed, all five batters placed in the fourth quadrant of their respective population: above-average ISO+ but below-average BB/K. As each statistic indicates, we can interpret this as excellent contact quality but poor plate discipline. In practice this means that the players draw fewer walks and strike out more, but are productive when making contact.

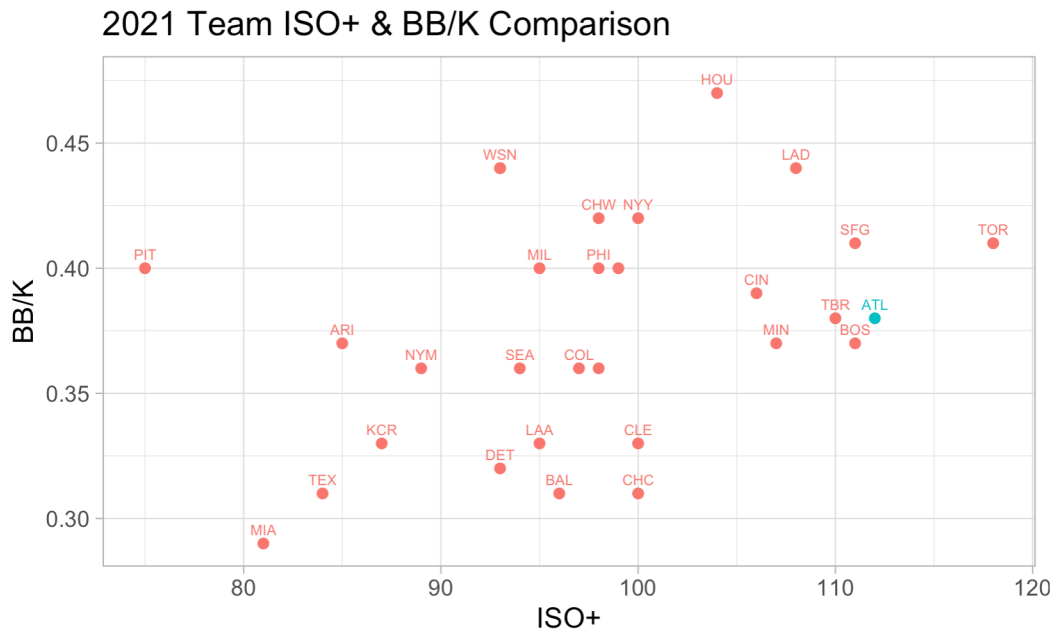


Figure 6. Scatterplot of BB/K vs ISO+ of all MLB teams in 2021

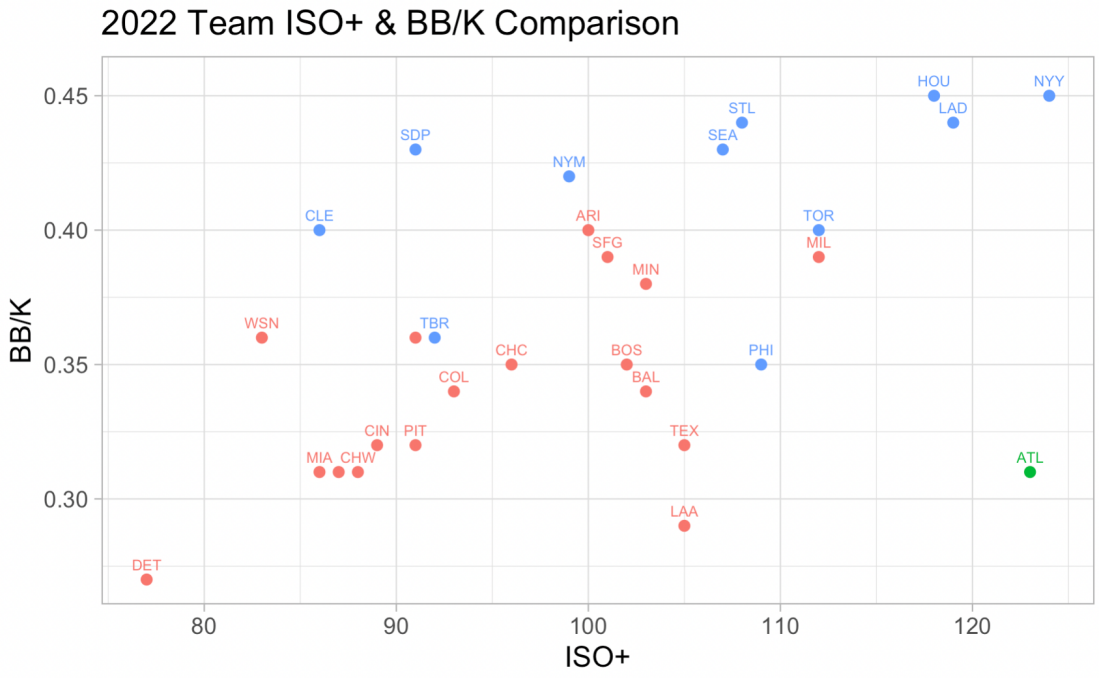
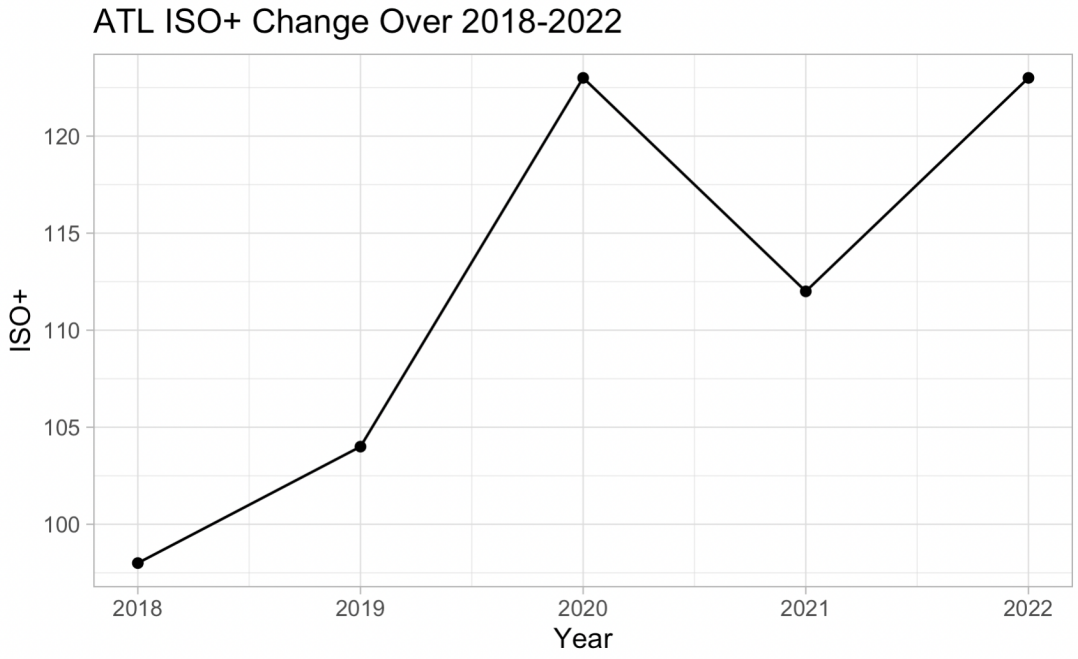


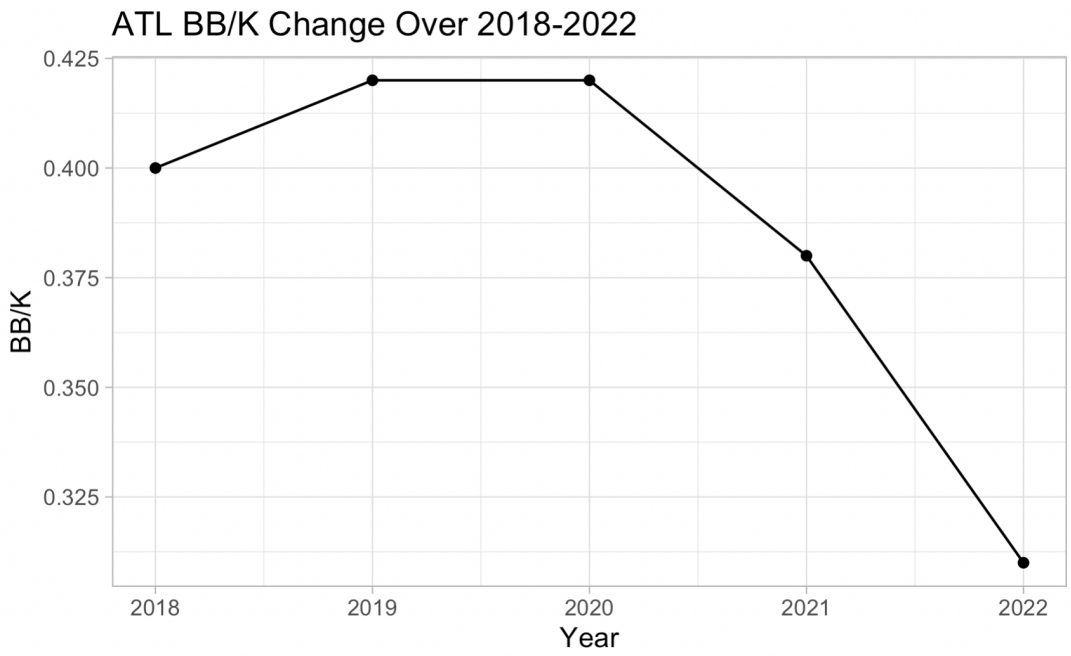
Figure 7. Scatterplot of BB/K vs ISO+ of all MLB teams in 2022

We then used the same statistical set (BB/K and ISO+) to create a team comparison for the Braves in 2022.

All thirty teams are displayed, with the Atlanta Braves in green, the eleven other playoff teams in blue, and the rest in red. While ISO+ varies largely for playoff teams, most have high BB/K, with offensive strongholds, Astros, Dodgers, and Yankees clustered in the top-right corner. This result is natural because both ISO+ and BB/K are positive indicators of offensive performance. The Braves ranked second in ISO+ but just 25th in BB/K, standing out amongst the league, but especially amongst other playoff teams. To see if Atlanta's position as a playoff team with high ISO+ but low BB/K is sustained, we looked at their World Series-winning 2021 season as well.

Although not as dramatic as the 2022 season, the Braves still have a similar position. We can conclude that the Braves have a unique standing in terms of ISO+ and BB/K. Next, it is important to determine whether this phenomenon is an outlier or if the Braves have intentionally directed their outcomes. To do so, we looked at the Braves' ISO+ and BB/K trends over the past five years.



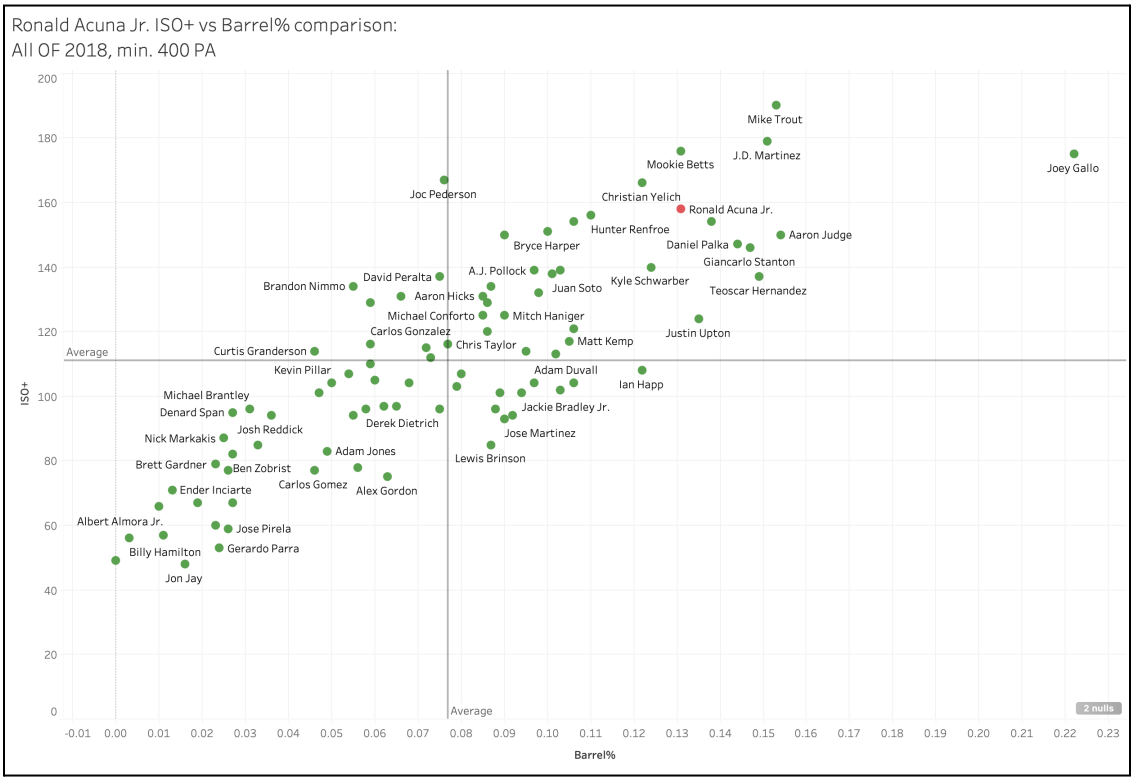


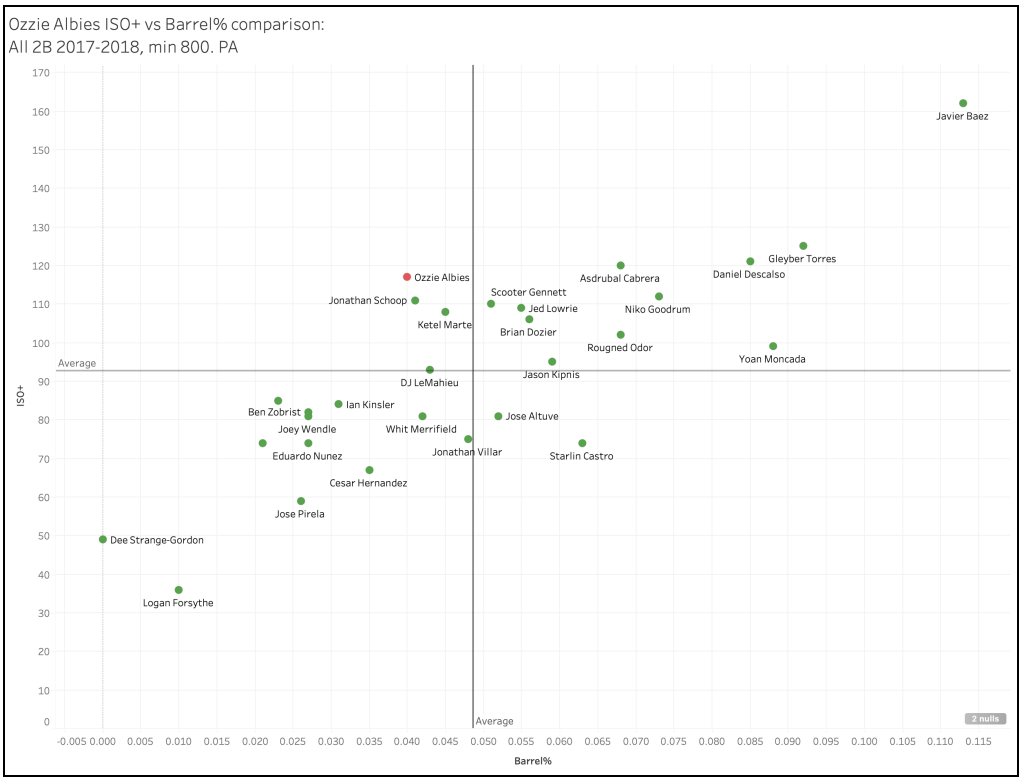
The progressive trend over the past five years shows increasing ISO+ and decreasing BB/K, leading to the current standings. It is unknown whether the Atlanta Braves desire this trend; it is entirely possible that the Braves intended to improve in both ISO+ (contact quality) and BB/K (plate discipline) but the results are not captured by our data. It is also possible that the Braves only value ISO+ (contact quality) and deem BB/K less important or unimportant. Regardless, we reasoned that their long-term investments into the sample players affirmed the intended organizational direction.

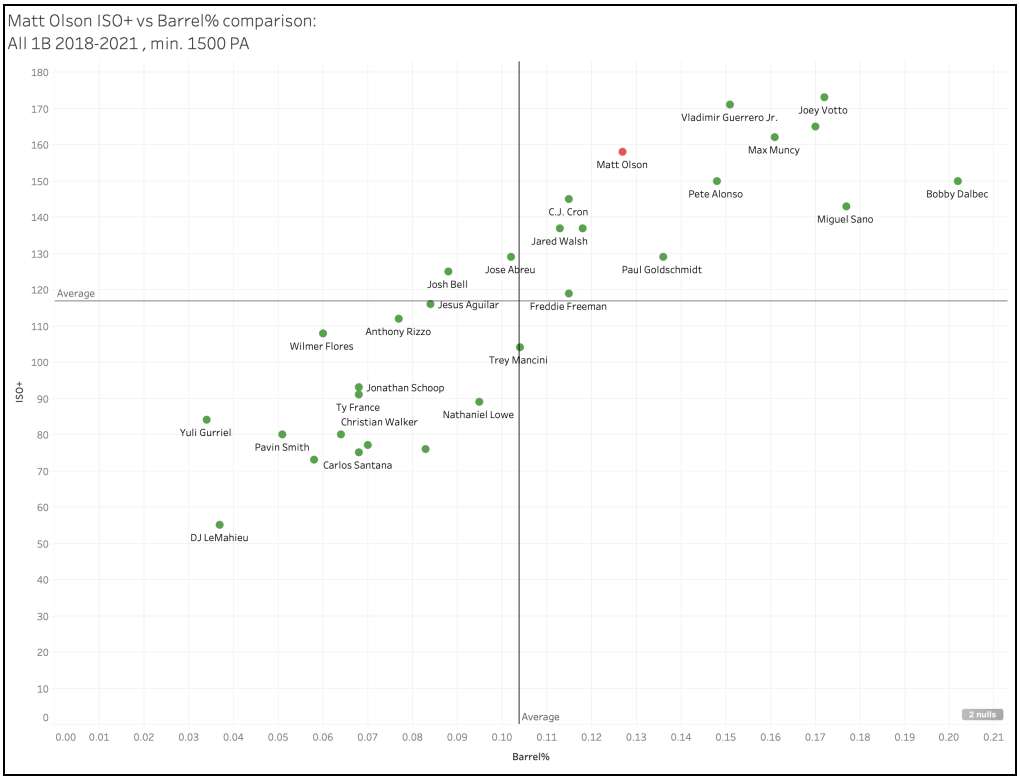
To this point, we have established the players' unique position of having a high ISO+ but low BB/K. We have also established how this ties into the Braves' identical position and how they have intentionally trended in this direction. However, this understanding alone does not prove our hypothesis. A critical shortcoming for ISO+ and BB/K is that they are both outcome data, which means they are highly influenced by external factors, such as luck. Therefore, outcome data must be supported by additional statistics to determine if the batter's qualities match the observed outcome. In order to further examine each of ISO+ and BB/K, we chose another set of statistics that serve as powerful indicators of contact quality and plate discipline. FOr batted balls, high exit velocity and optimal launch angles are usually good indicators of power, therefore ISO+. We decided to look at **Barrel%** as an indicator of ISO+, then **xwOBA** to draw a general conclusion for offensive production.

A Barrel is a batted ball with an exit velocity of at least 98mph with a launch angle between 26 to 30 degrees. The optimal launch angle range expands positively with higher exit velocity. A high Barrel% means that a player's batted balls are hit hard and at the optimal launch angle often, making it a welcomed statistic for batters. We used these two statistics to develop individual scatterplots.

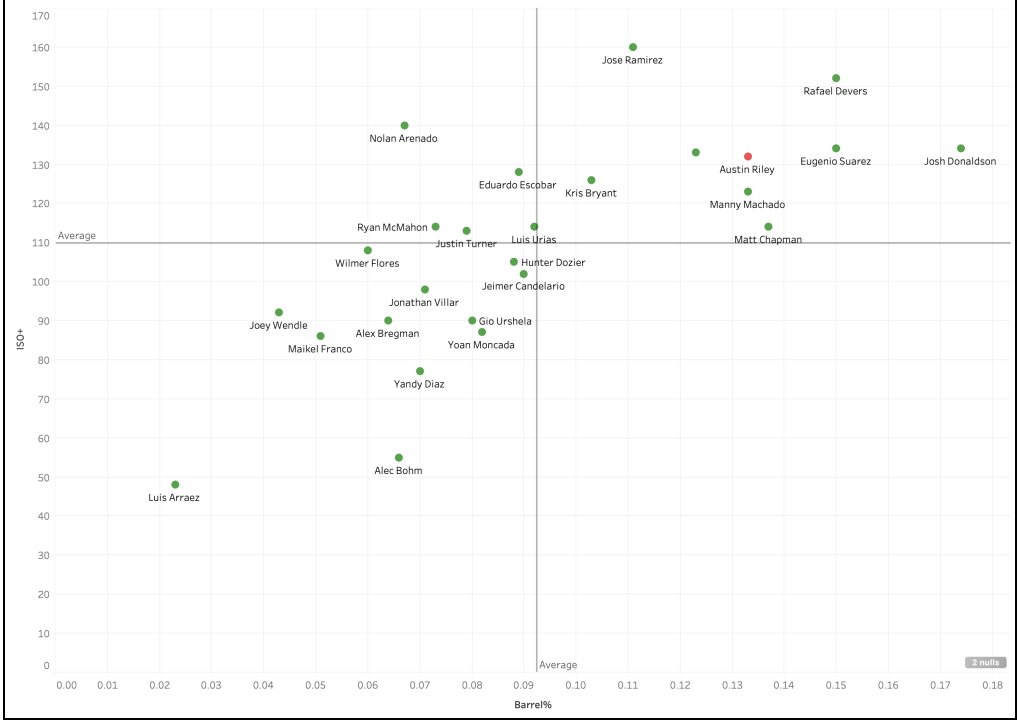
Barrel% & ISO+



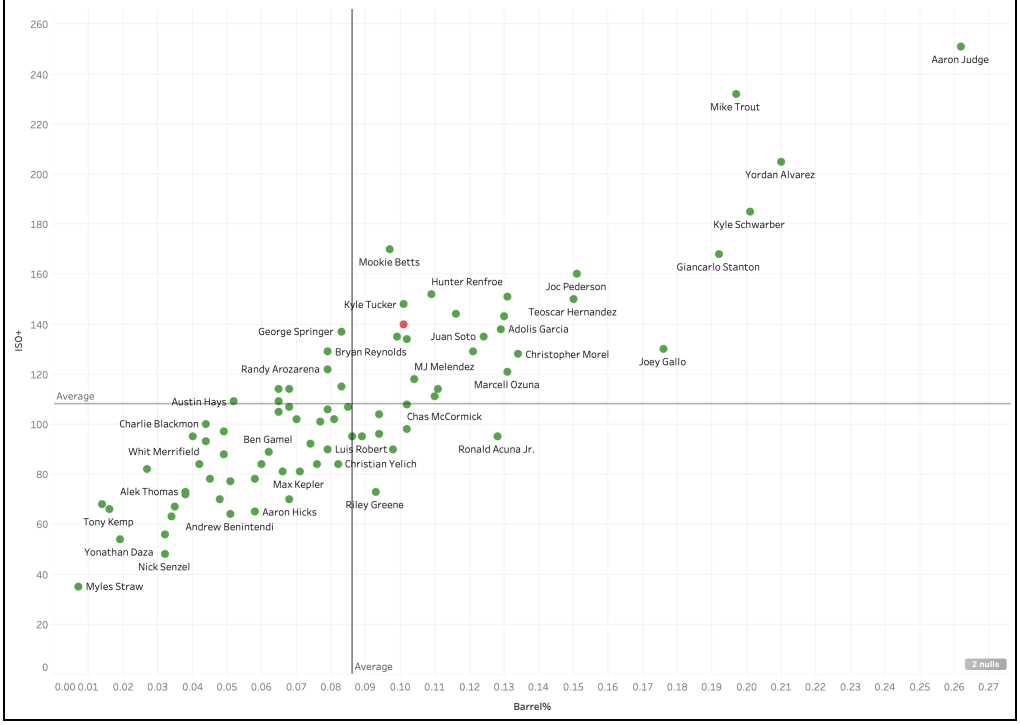

Ozzie Albies ISO+ vs Barrel% comparison:
All 2B 2017-2018, min 800. PA
ISO+
Barrel%
Average
Average
2 nulls
Javier Baez
Gleyber Torres
Daniel Descalso
Asdrubal Cabrera
Ozzie Albies
Scooter Gennett
Jonathan Schoop
Jed Lowrie
Niko Goodrum
Ketel Marte
Brian Dozier
Rougned Odor
Yoan Moncada
Jason Kipnis
DJ LeMahieu
Ben Zobrist
Ian Kinsler
Joey Wendle
Whit Merrifield
Jose Altuve
Eduardo Nunez
Jonathan Villar
Starlin Castro
Cesar Hernandez
Jose Pirela
Dee Strange-Gordon
Logan Forsythe


Matt Olson ISO+ vs Barrel% comparison:
All 1B 2018-2021 , min. 1500 PA
ISO+
Barrel%
Average
Average
2 nulls
Joey Votto
Vladimir Guerrero Jr.
Max Muncy
Matt Olson
Pete Alonso
Bobby Dalbec
C.J. Cron
Miguel Sano
Jared Walsh
Jose Abreu
Paul Goldschmidt
Josh Bell
Jesus Aguilar
Freddie Freeman
Anthony Rizzo
Wilmer Flores
Trey Mancini
Jonathan Schoop
Ty France
Nathaniel Lowe
Christian Walker
Yuli Gurriel
Pavin Smith
Carlos Santana
DJ LeMahieu

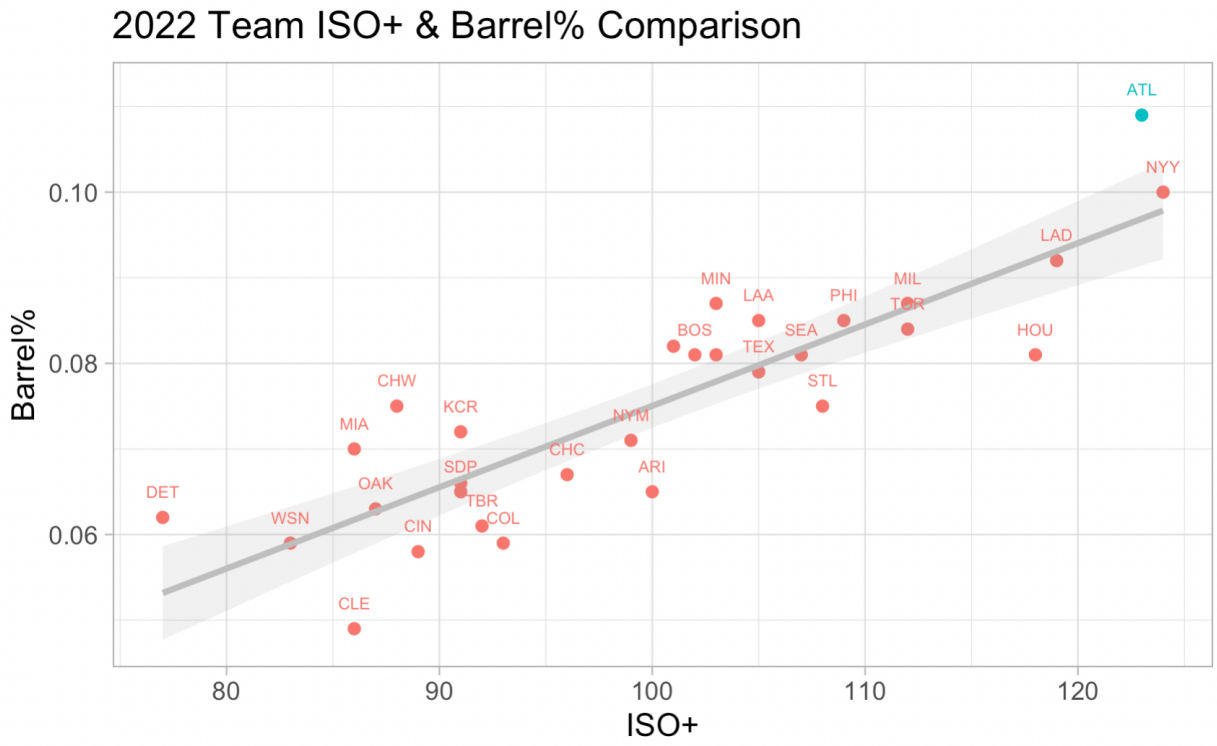
Austin Riley ISO+ vs Barrel% comparison:
All 3B 2021-2022, min. 650 PA



Michael Harris II ISO+ vs Barrel% comparison:
All OF 2022 , min. 250 PA



With the exception of Ozzie Albies, all the batters placed in the first quadrant, meaning above-average ISO+ and Barrel%. It is easy to identify many prominent sluggers in this same region, such as Mike Trout in the 2018 Acuña Jr. comparison or Aaron Judge in the 2022 Harris II comparison. As expected, Barrel% is a powerful indicator of ISO+ and contact quality. Although Albies stands slightly below average for both ISO+ and Barrel%, it is notable that after signing his extension he improved his ISO+ from 2019-2021 which contributes to the Braves' ISO+ trend from 2018-2022. Building on this point, we also developed a team model using ISO+ and Barrel% to find a correlation line for the 2022 season.



In the linear regression model summary between 2022 Team ISO+ and Barrel%, we observed a p-value of 5.171e-10 meaning our result is highly unlikely to happen by random chance, therefore statistically significant. The multiple R-squared value is 0.7536. The correlation coefficient is approximately 0.8681, which indicates a strong correlation between ISO+ and Barrel% across the league in 2022, as expected. With a confidence interval of 95%, the positive correlation line between Barrel% and ISO+ is clear across the league.

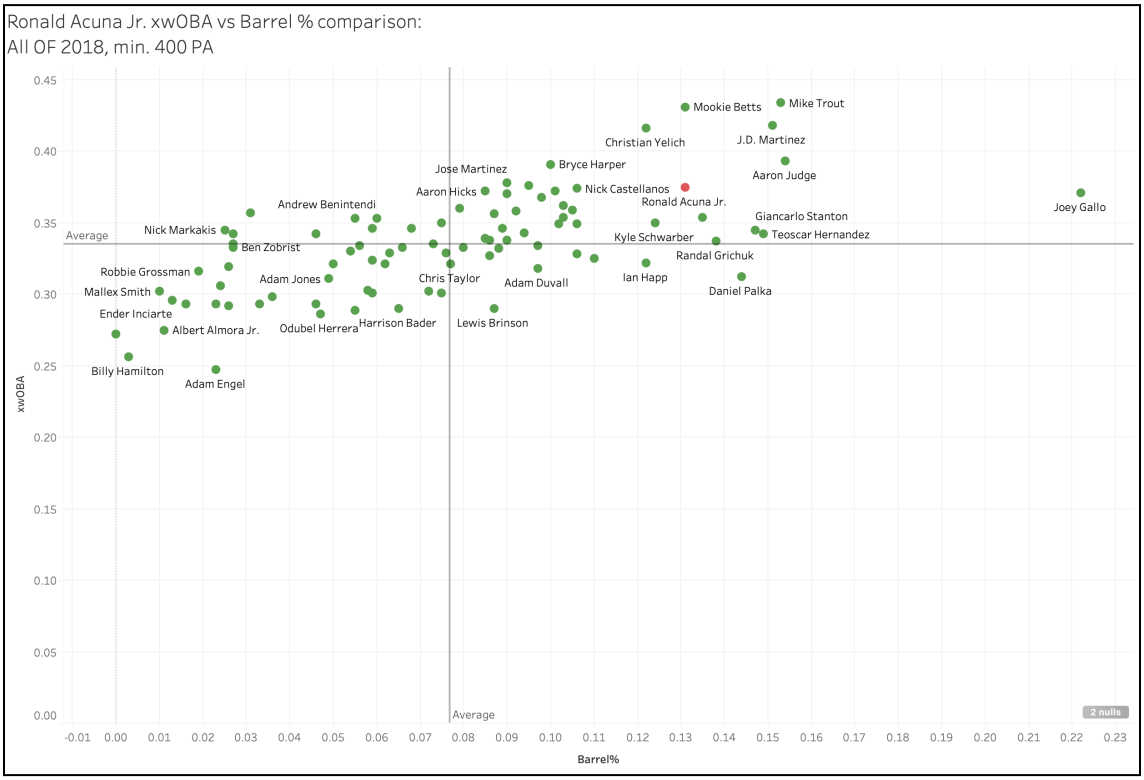
Notably, the Atlanta Braves were positioned at the top-right corner of the correlation model ranking first with a Barrel% close to 11% and second in ISO+. This sets apart the Braves from other offensive strongholds such as the Yankees, Dodgers, or Astros. This analysis is important because better contact quality and higher launch angles is a league-wide trend propagated by institutions like Driveline Baseball and rules like the shift.

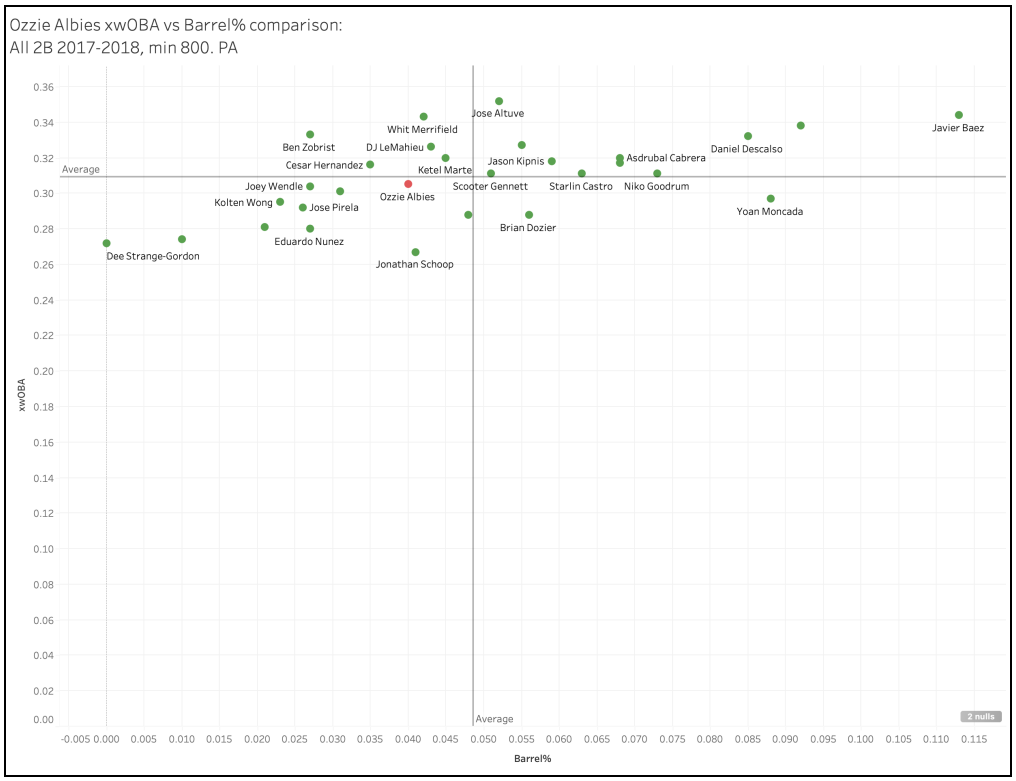
We concluded that batted ball data (Barrel%) strongly supports the Atlanta Braves' unique ISO+ trends because the contact quality behind the outcomes can be developed into a

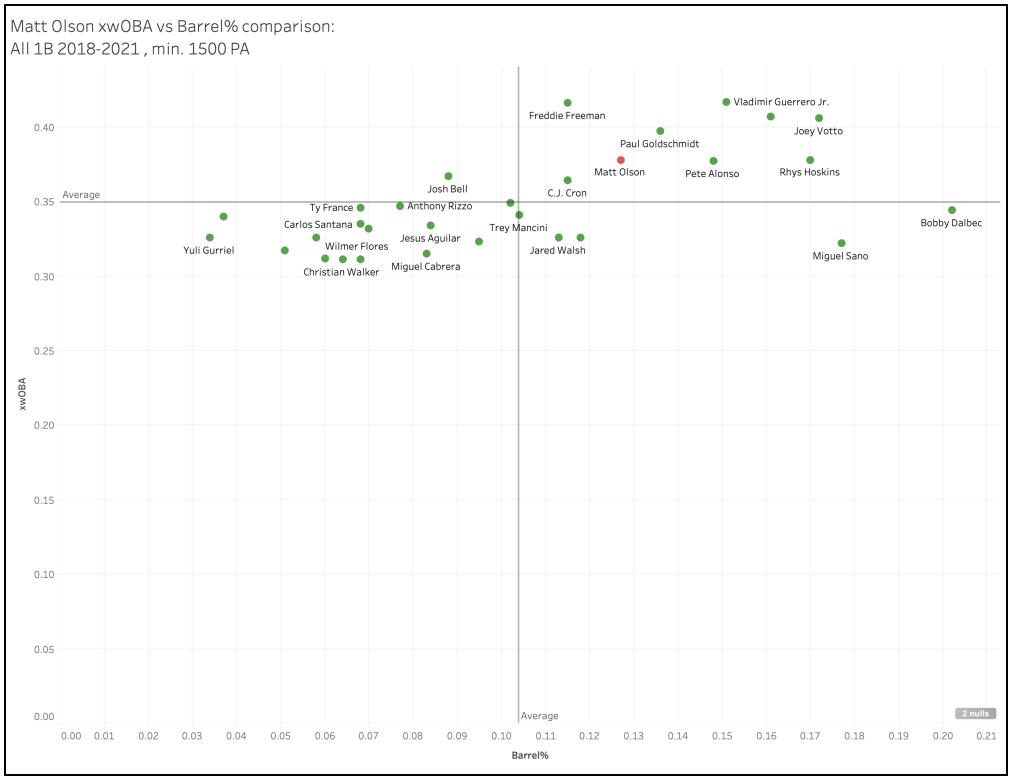
positive correlation model. This suggests that the elevated ISO+ and Barrel% levels are likely an intended phenomenon.

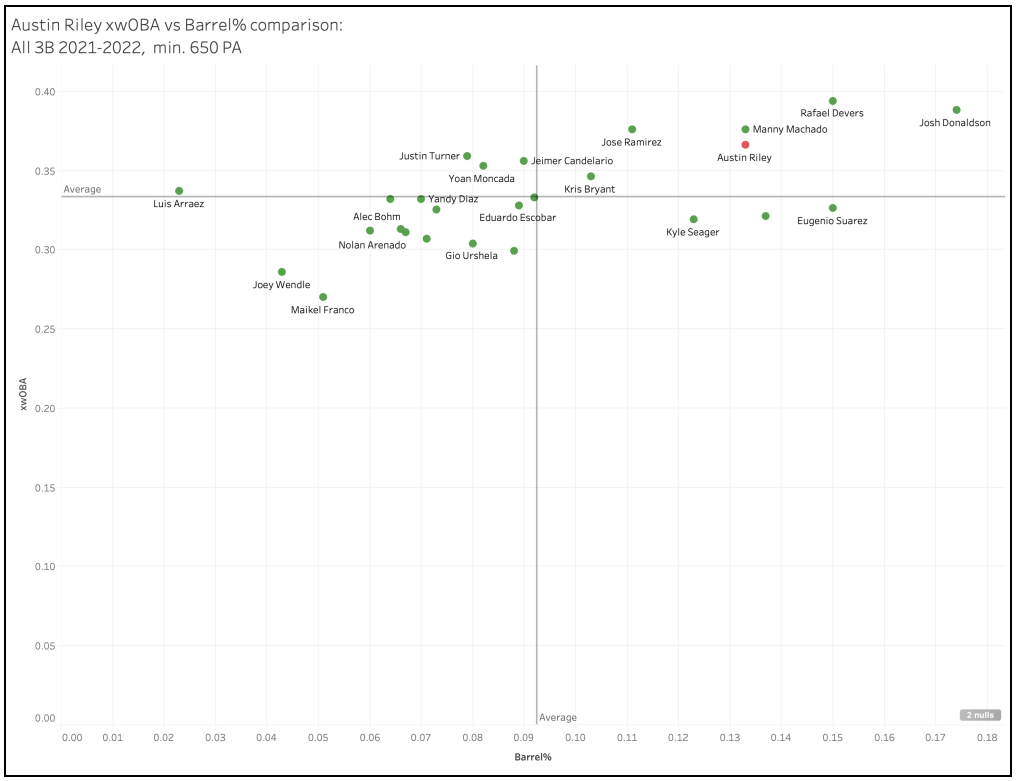
xwOBA & Barrel%

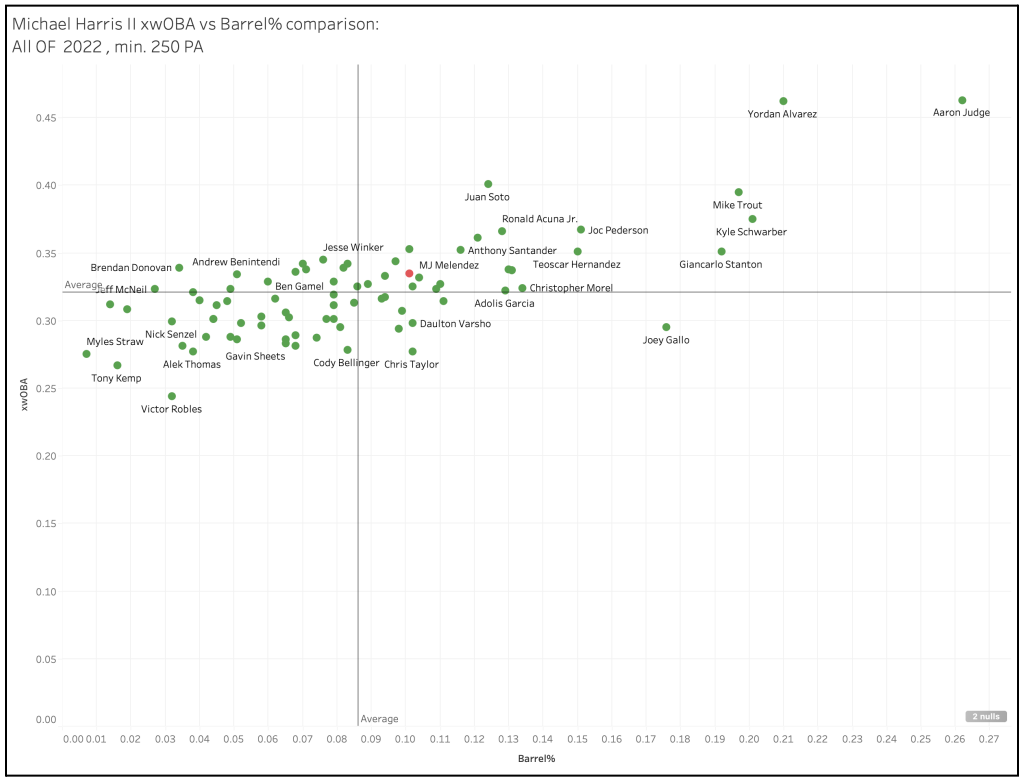
Knowing this, we wanted to connect ISO+ and Barrel% to a more holistic offensive production picture to understand the Braves's potential organizational philosophy. **xwOBA**, "Expected Weighted On-Base Average", is a useful statistic to capture this overall picture. According to FanGraphs, "Weighted On-Base Average combines all the different aspects of hitting into one metric, weighting each of them in proportion to their actual run value . . . wOBA measures and captures offensive value more accurately and comprehensively". "Expected" statistics are formulated using batted ball data from Statcast as the input instead of measuring on-field results. Therefore, it provides a fuller picture of the batter's qualities and capabilities like for Barrel%. We used Barrel% and xWOBA to generate more scatterplots.




Ozzie Albies xwOBA vs Barrel% comparison:
All 2B 2017-2018, min 800. PA
Jose Altuve
Javier Baez
Whit Merrifield
Daniel Descalso
Ben Zobrist
DJ LeMahieu
Jason Kipnis
Asdrubal Cabrera
Cesar Hernandez
Ketel Marte
Average
Scooter Gennett
Starlin Castro
Niko Goodrum
Joey Wendle
Ozzie Albies
Kolten Wong
Jose Pirela
Yoan Moncada
Brian Dozier
Eduardo Nunez
Dee Strange-Gordon
Jonathan Schoop
xwOBA
Average
2 nulls
Barrel%


Matt Olson xwOBA vs Barrel% comparison:
All 1B 2018-2021 , min. 1500 PA
Freddie Freeman
Vladimir Guerrero Jr.
Joey Votto
Paul Goldschmidt
Matt Olson
Pete Alonso
Rhys Hoskins
Josh Bell
C.J. Cron
Average
Ty France
Anthony Rizzo
Bobby Dalbec
Carlos Santana
Trey Mancini
Yuli Gurriel
Jesus Aguilar
Jared Walsh
Wilmer Flores
Miguel Sano
Christian Walker
Miguel Cabrera
xwOBA
Average
2 nulls
Barrel%


Austin Riley xwOBA vs Barrel% comparison:
All 3B 2021-2022, min. 650 PA
Rafael Devers
Josh Donaldson
Manny Machado
Jose Ramirez
Austin Riley
Justin Turner
Jeimer Candelario
Yoan Moncada
Kris Bryant
Average
Luis Arraez
Yandy Diaz
Alec Bohm
Eduardo Escobar
Kyle Seager
Eugenio Suarez
Nolan Arenado
Gio Urshela
Joey Wendle
Maikel Franco
xwOBA
Average
2 nulls
Barrel%


Michael Harris II xwOBA vs Barrel% comparison:
All OF 2022 , min. 250 PA
Yordan Alvarez
Aaron Judge
Juan Soto
Mike Trout
Ronald Acuna Jr.
Joc Pederson
Kyle Schwarber
Jesse Winker
Anthony Santander
Brendan Donovan
Andrew Benintendi
MJ Melendez
Teoscar Hernandez
Giancarlo Stanton
Average
Jeff McNeil
Ben Gamel
Christopher Morel
Adolis Garcia
Daulton Varsho
Joey Gallo
Myles Straw
Nick Senzel
Gavin Sheets
Alek Thomas
Cody Bellinger
Chris Taylor
Tony Kemp
Victor Robles
xwOBA
Average
2 nulls
Barrel%

Again, with the exception of Ozzie Albies, all of the players placed in the first quadrant, having above average Barrel % and xwOBA. Most sluggers with high power potential and strong offensive production also placed similarly, such as Manny Machado, Vladimir Guerrero Jr., and Paul Goldschmidt.

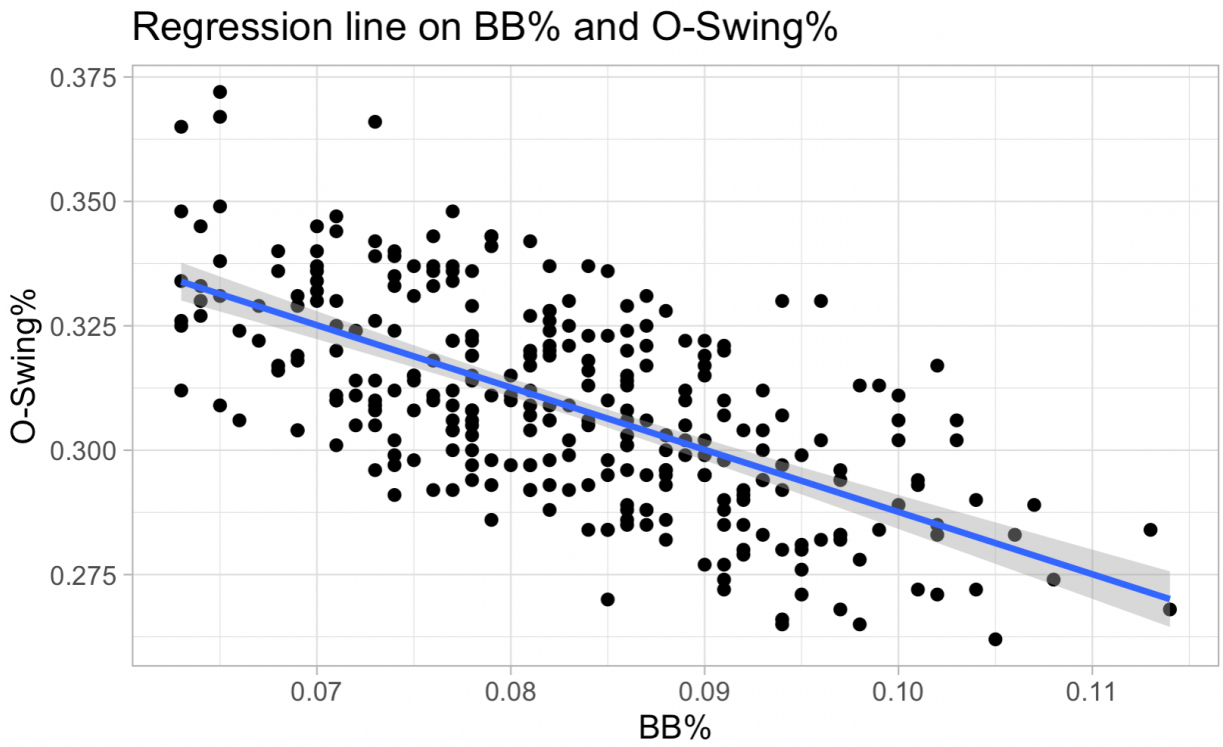
One outlier stands out in Acuña Jr.'s Barrel% and xwOBA scatterplot: Joey Gallo. He also stands out in Acuña Jr.'s previous ISO+ and Barrel% scatterplot, located in the same quadrant as Acuña Jr. but much farther to the right meaning a higher Barrel%. Based on this standing only, his Barrel%, batted ball profile, and xwOBA all point towards an extremely high level of offensive production. However, what is not captured in these scatterplots is that Joey Gallo has the second highest K% at 36.5% over the past five seasons, impacting his BB/K.

We discerned Gallo can be seen as an extreme example of the Braves' batter profiles: amazing contact quality and batted ball profile but low BB/K. As expected, in the Acuña Jr. BB/K and ISO+ scatterplot, Gallo is located in the same quadrant as Acuña Jr. but even more to the right. While Joey Gallo is well-known for being an extreme high-risk, high-return batter, his profile encapsulates the key qualities of the Braves' batters.

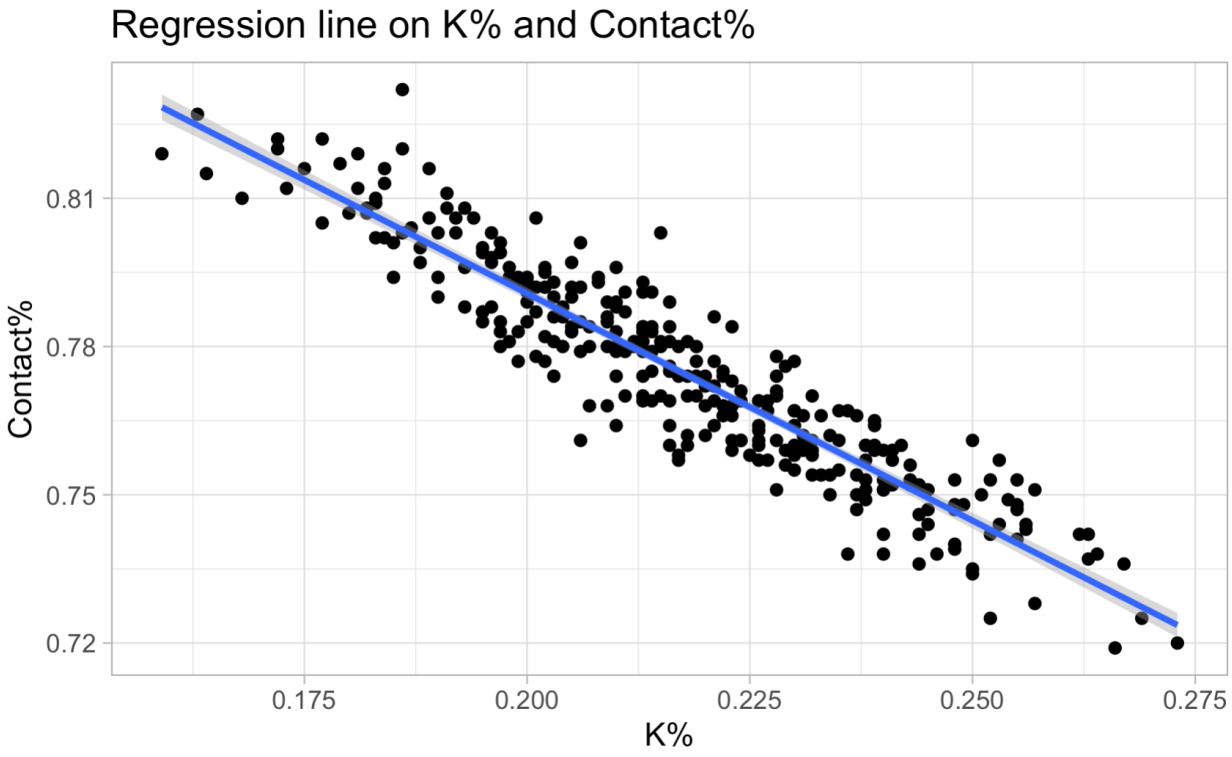
BB/K & O-Swing%, Contact%

After analyzing the contact quality and batted ball profile behind ISO+, we also analyzed the plate discipline qualities behind the outcome statistic of BB/K. Some of the key statistics used for plate discipline are O-Swing%, O-Contact%, Z-Swing%, Contact%, O meaning "outside of strike zone" and Z meaning "strike zone". Together, they show how selective a batter is when swinging and how often they make contact. Plate discipline is harder to analyze than contact quality because the relationship between statistics and outcomes is not as straightforward. For example, a player with a high O-Swing% is expected to have a high K% because they are swinging more at pitches that are not strikes. However, if they are making contact with these out of zone pitches and even turning them into hits, their outcome statistics will be inflated. The difference between a batter's approach and outcome is the difficulty of analyzing plate discipline statistics.

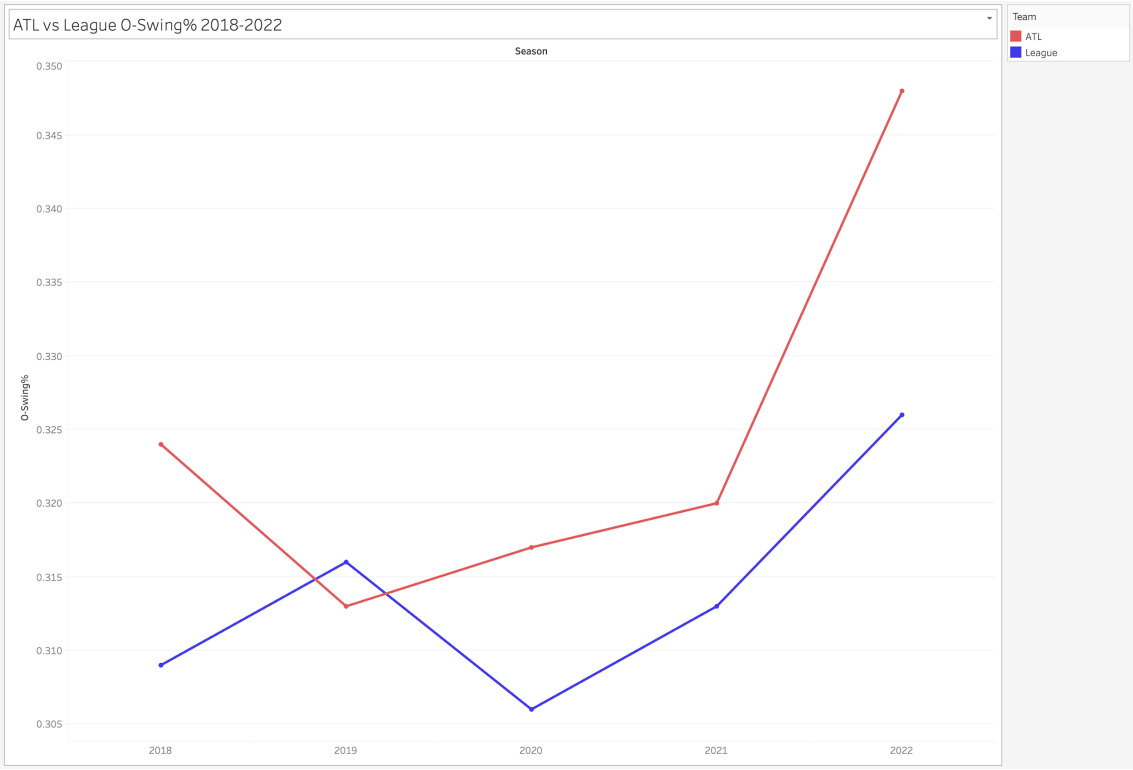
Therefore, we decided to create our own regression models to determine whether the plate discipline statistics were strong indicators of BB% and K% outcomes. We chose to analyze **O-Swing%** as an indicator with an inverse relationship to BB% and **Contact%** also as an indicator with an inverse relationship to K% because they were the two most commonly cited statistics. For O-Swing%, BB%, Contact%, K% we used team data from the last five years for a total of 150 separate, team seasons to put in the regression model.



When looking at the linear regression model for O-Swing% vs BB%, we observed strong negative relationship between the two variables. (Correlation coefficient = - 0.6425) We observed a p-value 2.2e-16, or in other words, an almost impossible probability that this relationship occurred due to random chance. The multiple R-squared of 0.4129 meant that our model could only explain slightly less than half the variation in the data, therefore suggesting other factors that influence variations in O-Swing% and BB%. Though this variation is expected due to individual discrepancy between player as mentioned. This was acceptable to show the statistically significant correlation existing between BB% and O-Swing%, therefore, O-Swing% is an indicator of BB%.



In the linear regression model between K% and Contact%, we observed a p-value of 2.2e-16 meaning our results are near impossible to happen by random chance. The multiple R-squared is 0.8663 and the correlation coefficient is approximately -0.9308. This indicates a very strong, statistically significant correlation exists between K% and Contact%, therefore Contact% is a compelling indicator of K%. Our R-squared value even suggests a very large portion of the variation in our data is accounted for in our model. To support this argument, we created line graphs comparing the Atlanta Braves' O-Swing% and Contact% to the rest of the league over the past five seasons.


ATL vs League O-Swing% 2018-2022
Season
0.350
0.345
0.340
0.335
0.330
0.325
0.320
0.315
0.310
0.305
O-Swing%
2018
2019
2020
2021
2022
Team
ATL
League


ATL vs League Contact% 2018-2022
Season
0.780
0.775
0.770
0.765
0.760
0.755
0.750
0.745
0.740
Contact%
2018
2019
2020
2021
2022
Team
ATL
League

We observed that for both O-Swing% and Contact%, the Atlanta Braves are trending towards their current direction of high O-Swing% and low Contact%, especially in 2022. As mentioned in the 2022 Team ISO% and Barrel% Comparison, the emphasis on better contact quality is a league-wide trend over the past five seasons. In terms of plate discipline, the trend is not as clear; the league O-Swing% has increased but only by a minimal amount, while the Contact% direction is unclear. On the other hand, the Braves have dramatically changed their rates by almost 25 points for O-Swing% and 40 points for Contact%. In relation to BB/K and plate discipline, we concluded that this proves the organizational direction the Atlanta Braves are intending for.

Limitations

There are several potential limitations to our study. Fundamentally, we are looking from the "outside-in", interpreting past statistics to find a conclusion for the present and future. We worked to overcome this limitation by diving deeper beyond the outcome statistics into statistics that reveal actual batter qualities such as contact quality and plate discipline. We also looked at team trends over the past five seasons to determine if the change is intentional or desired. This was especially important to do because of the recent emphasis on contact quality.

Additionally, while our objective was to focus on an intuitive statistic and solidify our argument by proving the legitimacy of the statistic, there are many other statistics that may paint a more accurate picture of what the Atlanta Braves are looking for in their batters. Even outside the scope of offensive production, defensive capabilities and baserunning are all highly valued aspects of position players. We reviewed the following defensive statistics for each of the Braves' players, Defensive Run Saved (DRS), Ultimate Zone Rating per 150 games (UZR/150), and Outs Above Average (OAA). All of the batters showed strong defensive profiles with the exception of Austin Riley and Ronald Acuña Jr. in 2022, therefore we also concluded that the Braves considered defensive capabilities. Even the two exceptions do not hinder this argument. Austin Riley has been one of the most productive *batters* over the past two seasons and defense at third base is not usually the highest priority. Acuña Jr. debuted and was extended as a plus center fielder, a prime defensive position. However, he injured his ACL halfway through the 2021 season. On return in 2022, the injury negatively impacted his range coverage in the outfield. Acuña Jr. was then moved to right field with Harris II taking over primary center fielder duties. Harris II's extension also shows that the Atlanta Braves care about defense at prime positions.

Sean Murphy also merits discussion in this aspect. As a glove first-catcher, his defensive performance is prioritized over his offensive production. This is especially true because Murphy splits playing time with Travis d'Arnaud, a more offensive catcher. Sean Murphy has an amazing defensive profile especially in pitch framing and running prevention. In Baseball Savant's Catcher Framing Leaderboard, Sean Murphy has ranked second, third, and sixth among all qualified catchers from 2020-2022. Murphy is also exceptional at preventing runners with a lethal combination of a 1.89 pop time placing him at the 96th percentile and a rocket arm. With

more running expected in 2023 due to the new rule changes, we will likely be seeing more of Sean Murphy in the spotlight.

Conclusion and Reflection

We hypothesized that the Atlanta Braves have a set of qualities they value in their position players that led them to offer long-term contract extensions. This led to two objectives, first, analyzing the individual player profiles will reveal commonalities between the Braves' players. These commonalities would represent the qualities the Braves value because they were willing to offer a long-term extension. Second, analyzing the Braves' team statistical trends, what aspects they are focusing on or not focusing on improving, will show organizational direction.

We were successful in terms of identifying a coherent set of outcome statistics and player qualities. Our analysis of **ISO+** and **BB/K** revealed similar profiles of high ISO+ and low BB/K, a trend that is reflected in the Braves' team statistics as well. We then dived deeper beyond the outcome statistics to evaluate the players' contact quality for ISO+ and plate discipline for BB/K. Using **Barrel%** as an indicator for ISO+, we were able to find significant shared features. We then connected the contact quality statistics (Barrel% and ISO+) to **xwOBA** to develop a fuller picture of offensive production.

For BB/K and plate discipline, we proved that **O-Swing%** and **Contact%** were strong indicators of BB% and K%, respectively. On that basis, we also proved the inverse relation between O-Swing%/BB% and Contact%/K%. We then connected this to the Atlanta Braves team statistics versus the league to see the organizational direction. Based on our statistical analysis, we conclude the Atlanta Braves show a clear focus on contact quality over plate discipline.

We thoroughly enjoyed the process of identifying a potential area of research, collecting the necessary data, running statistical analysis, and reaching a rational conclusion. There was much to be learned and we had questions every step of the way, from whether the statistics we were looking at were even valued by the Atlanta Braves organization to even if they were, at what levels they would be discussed and implemented. Better contact quality at the cost of plate discipline may be a general trend that applies to not just the Braves but the entire league. However, we believe our findings are unique to the Braves and significant enough to merit further research. The Atlanta Braves are only becoming more aggressive with their evaluation of players and extending long-term contracts. We look forward to the Atlanta Braves' next move.