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My research project is going to be on whether Odell Beckham Jr is truly an "elite receiver". From the surface level you might say he of course he is but, with statistical data I want to prove my point that he is not an elite receiver and is simply an average receiver at best who holds relevance to the elite category because he had two strong seasons during his freshman and sophomore years in the NFL. I have acquired statistics from the top 10 wide receivers ever since OBJ has joined the league (2014). I will use the stats to determine if he an undisputedly elite receiver that everyone thinks he is. I have many questions regarding OBJ's stats and overall performance. Not only does OBJ play at the highest level of football but, he is regarded as one of the best by many. While this a general assumption statistically speaking OBJ is not what everyone thinks he is. He has had some great highlights throughout his career but, his states are very inconsistent and do reflect the image that the general assumption that everyone believes. I will start with just an overall view of his stats before I dive into the actual statistical analysis of OBJ's career, To correctly compare his stats, I will only use two variables from Obj and the top 10 Wide Receivers from 2019. Below is OBJ's Yards Per Game (AVG) stats from the beginning of his career to the end

OBJ-GREEN

Year	Y/G
2014*	108.8
2015*	96.7
2016*	85.4
2017	75.5
2018	87.7
2019	64.7

Beside is you will see the top 10 Receivers stats compared to Odell's. At first glance it seems as if Odell is better than most of these receivers, but when viewed from a statistical standpoint, he is overall worse.

1	Michael Thomas*+	NOR	107.8
2	Christian McCaffrey*+	CAR	62.8
3	Keenan Allen*	LAC	74.9
4	DeAndre Hopkins*+	HOU	77.7
5	Julian Edelman	NWE	69.8
6	Julio Jones*	ATL	92.9
7	Allen Robinson	CHI	71.7
8	Travis Kelce*	KAN	76.8
9	Cooper Kupp	LAR	72.6
10	Austin Ekeler	LAC	62.1

Average	Median	Mode	Range	Variance	Standard Deviation
86.8133	81	44	202	1953.559	44.19908686

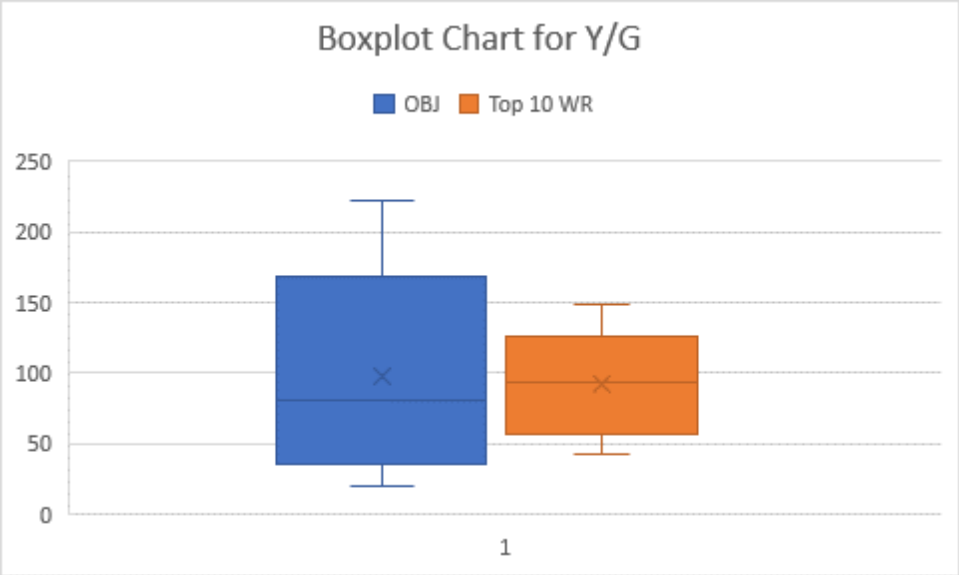
Above this text are formulas that were created to calculate OBJ's basic statistical analysis. To do this I took data from the NFL website and calculated each of Odell's stats using formulas in excel and stat crunch. I did the same thing with the top 10 WR and concluded this.

Average	Median	Mode	Range	Variance	Standard Deviation
89.23	92.75	#N/A	106.7	886.0957	29.76735908

In comparison the numbers are similar, but this is not what will decide if OBJ is a top 10 WR or not. In order to start getting answers to my problem I created box plots, Hypothesis tests, confidence intervals.

-Box Plots

The box plot that resulted from OBJ's data and the top 10 WR's data resulted in the following.



We use box plots to divide data into sections that each contain approximately 25% of data in one set. They also provide a visual summary of the data and it allows us to identify statistical values.

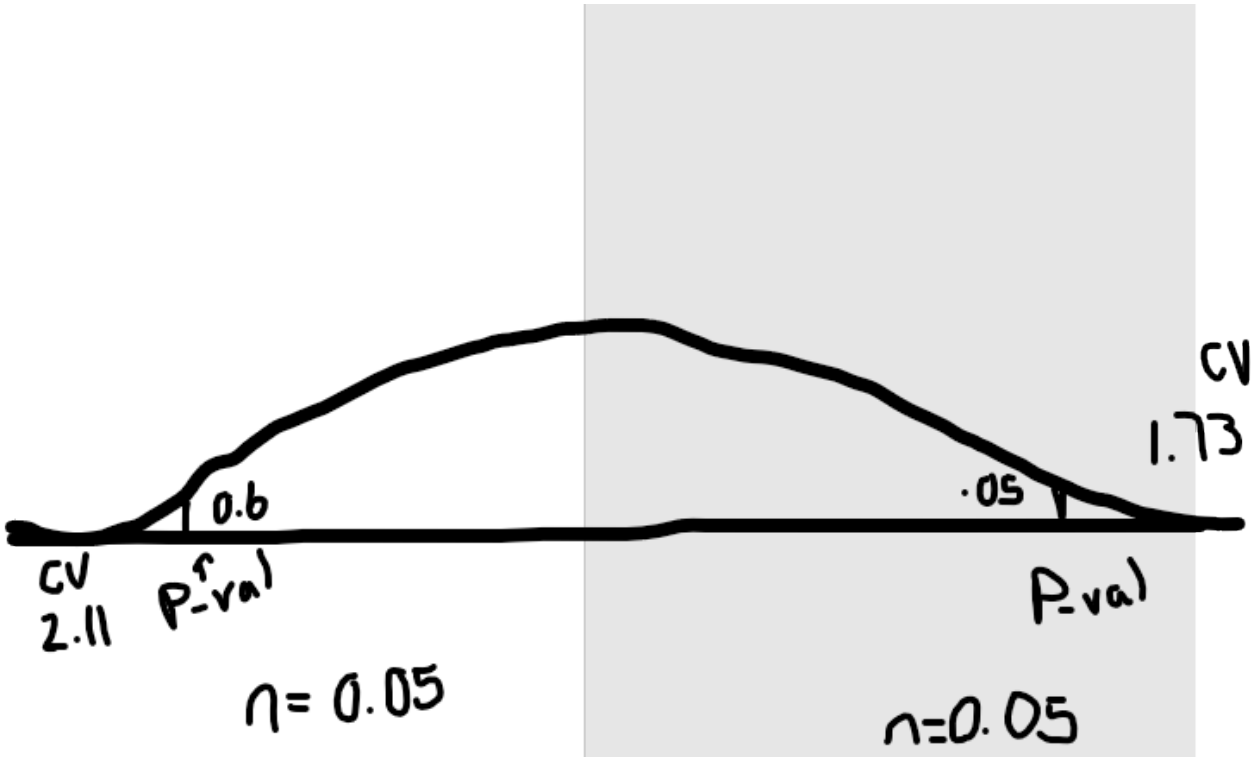
-Hypothesis Test

For the hypothesis I made claim and tested it with Excel.

- Claim: OBJ is a top ten WR.
- Null Hypothesis: Ho=0, Alternative hypothesis: Ha =/ 0
- The test that was conducted was a two tailed test. The test I used was a T-test because we are testing the means of the Y/G between the two statistics.

t-Test: Paired Two Sample for Means		
	Obj	*Top 10 Wr*
Mean	86.81333333	98.5888889
Variance	1953.559279	500.683611
Observations	75	9
Hypothesized Mean Difference	0	
df	17	
t Stat	0.467427736	
P(T<=t) one-tail	0.323064798	
t Critical one-tail	1.739606726	
P(T<=t) two-tail	0.646129596	
t Critical two-tail	2.109815578	

- Since the Top 10 WR mean is larger we reject the null hypothesis since the evidence shows that OBJ is not a top 10 WR.



The p-value and alpha are related because the alpha gives us an ideal starting point to see when we should reject or fail to reject the null hypothesis.

-Confidence Intervals

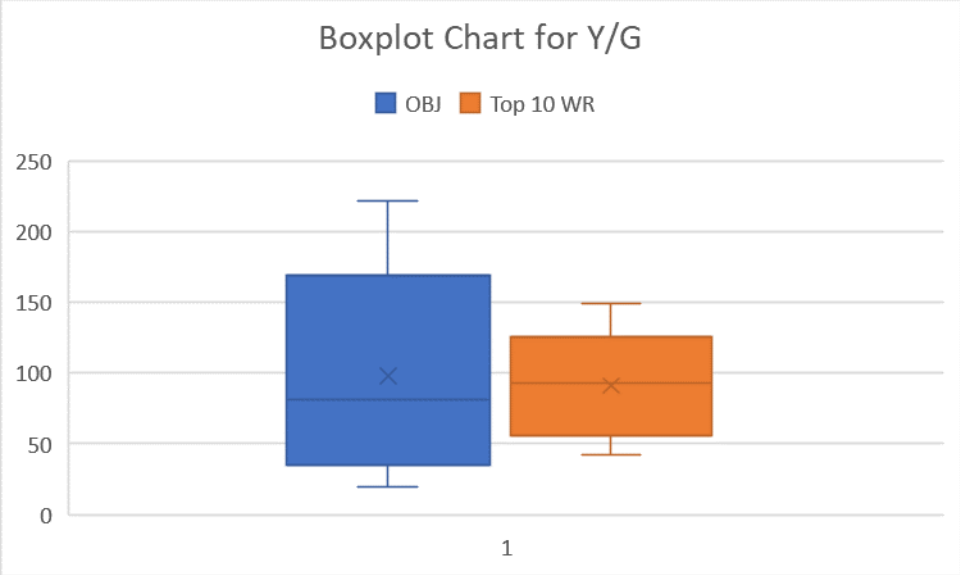
- We can state that with 95% confidence that Obj avg

Significance Level	0.05
Standard Deviation	44.19909
Sample Size	75

Sig Level	0.05
Stand Dev	29.76736
Sample Size	10
Confidence Interval for OBJ	10.00301

Confidence Interval for Top 10 18.44966

- Normality of data



- Going back to the box plots we use these to show normality.
- Obj's stats are not normal because they are skewed to the right. This is because his Q1 is smaller than his Q3
- The Top 10 WR's data is symmetrical because both quartiles are similar.
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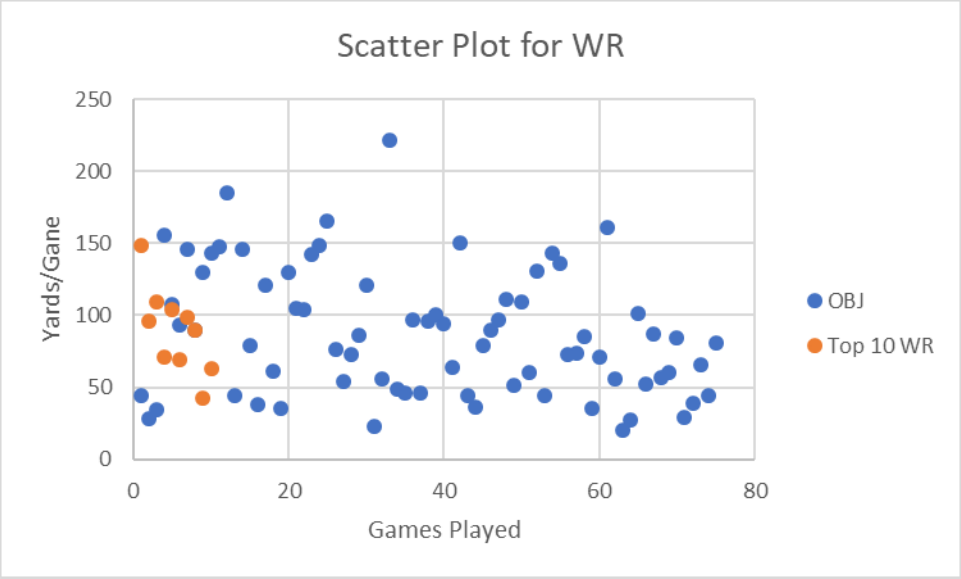
- Scatter Plot



We use scatter plots because they show relationships between two numeric variables. The dots in a scatter plot not only report the values of induvial data points, but also patterns and trends where the data can be useful for identifying other patterns in data. Obj's data looks a lot more sporadic instead of consistent and is declining as he went further is his career.

Results- My data in the end did prove my claim that statistically speaking Odell Beckham is not a top ten WR. Odell's number are not terribly far away from those who are statistically speaking "top ten receivers" but, they are far away enough to conclude that he is not included in the group. This does not mean that Odell is a bad receiver instead it proves that fan bases, social media, and broadcasting networks really do exaggerate the ability and affect that certain players have in games. Odell Beckham is good but not good enough to where he should be regarded as someone who plays well enough to dominate games consistently.

Limitations of study and conclusion- My variables that used could have been broader instead of just narrowing it down to Y/G. I only did this, so I was able to compare his

stats side by side in comparison to another variable. Due to this complication you could say that my argument is not complete since I only compared one stat instead of all of them. A better way to word my argument would to say Odell does not produce as much as other top 10 WR in the NFL. This would make more sense since I compared Y/G. In my future studies I will take that into consideration. My results were conclusive but, some were hard to find such as the confidence interval since I only had one stat that I was comparing.