

## OKC THUNDER VS HOU ROCKETS

In anticipation for game 7 of an amazing series, let's take a closer look at how the Thunder and Rockets played during the regular season.

We can compare the distribution of a statistical category for a team's wins and compare them to the distribution for a team's losses, and that may lend some insight to how a team performed differently during a win vs during a loss. A simple example would be something like: we find that when a team wins, its points scored distribution and median are greater than its points scored distribution during losses, suggesting that during a win the team will score more points than during a loss.

We can state our null hypothesis as:

H0: the distributions are equal.

H1: the distributions are not equal.

Let's use the Kruskal test to compare the distributions, and use an alpha of 0.05. We will reject H0 if  $p < 0.05$ , so if we reject H0 and accept H1 then the distributions of the two groups are not the same.

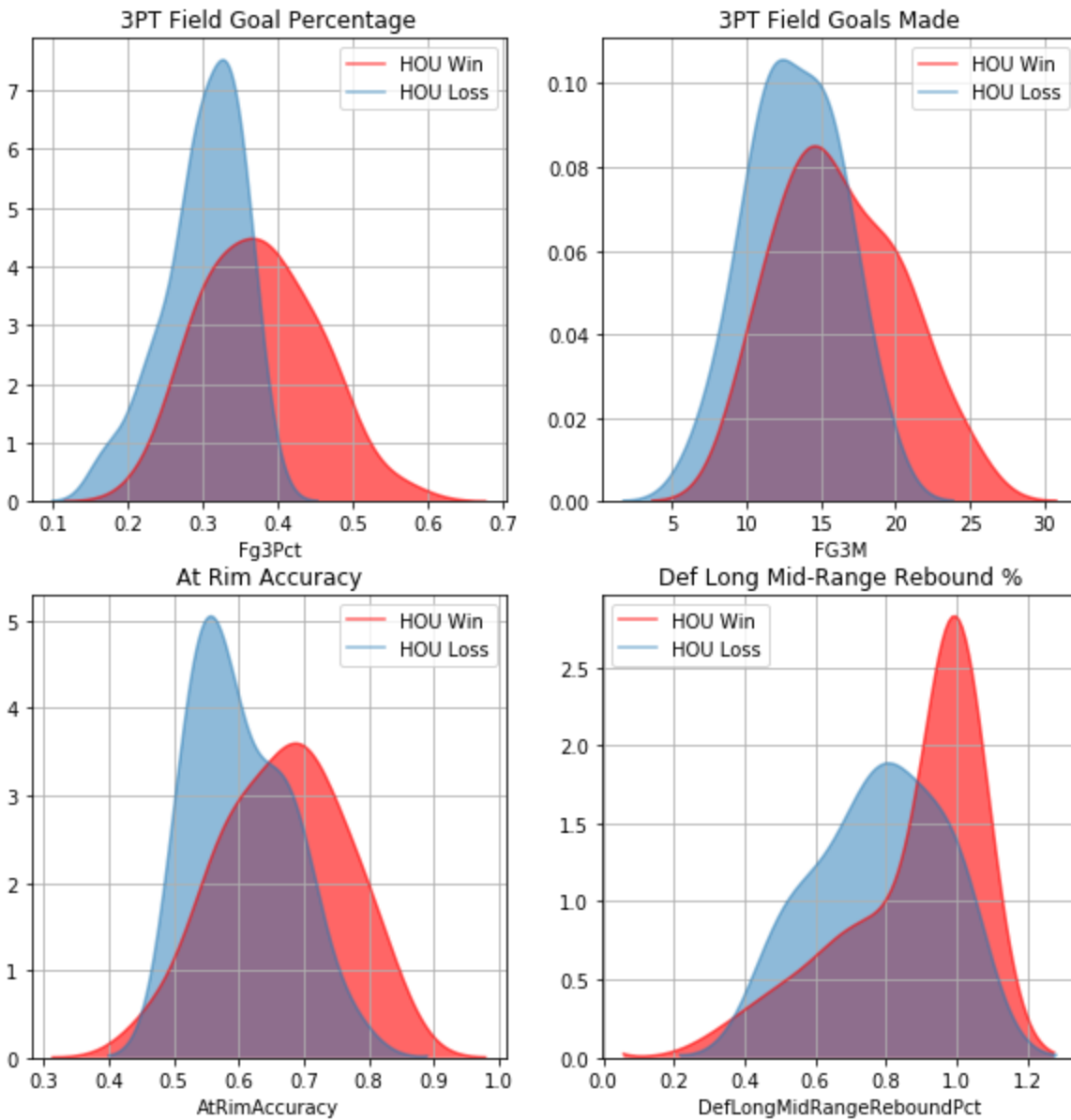
We can perform this test for each category grouped by Wins and Losses and rank the ones with the lowest p value, which will give us an idea of what categories are important to a team's success.

## HOU P-Values

Below we can see a list of categories with a p-value < 0.05, aka a list of categories where the Rockets performed differently for Wins and Losses. To no one's surprise, this list is heavily populated with a variety of 3PT shooting stats. Other stats to keep note of are scoring in the paint (AtRimAccuracy, AtRimPctBlocked) and Rebounding.

Stat	P-Value	W-Median	L-Median
FirstChancePoints	0	100.93	93.25
Points	0	112.91	105.2
EfgPct	0	0.52	0.5
TsPct	0	0.58	0.54
Arc3Accuracy	0.0001	0.32	0.29
NonHeaveArc3Accuracy	0.0001	0.32	0.29
Fg3Pct	0.0001	0.34	0.31
NonHeaveFg3Pct	0.0001	0.34	0.31
PtsUnassisted3s	0.0002	13.83	8.66
NonHeaveArc3FGM	0.0003	11	9.5
Arc3FGM	0.0007	10.78	9.35
AtRimAccuracy	0.0026	0.64	0.59
FG3M	0.0029	14.71	12.73
ShortMidRangePctAssisted	0.0032	0.29	0.41
ShortMidRangeAssists	0.0048	1.01	1.83
Fg2aBlocked	0.0074	4	4.72
FG2APctBlocked	0.008	0.09	0.12
Assisted3sPct	0.0093	0.68	0.8
Arc3PctAssisted	0.0112	0.62	0.72
DefLongMidRangeReboundPct	0.012	0.89	0.79
DefThreePtRebounds	0.0132	16.74	14.57
AtRimPctBlocked	0.0178	0.09	0.13
Steals	0.025	8.57	7.51
FTOffRebounds	0.0404	0	0
Corner3Accuracy	0.0424	0.39	0.33

Here's a few of the distributions split between W and L to visualize some of the differences.



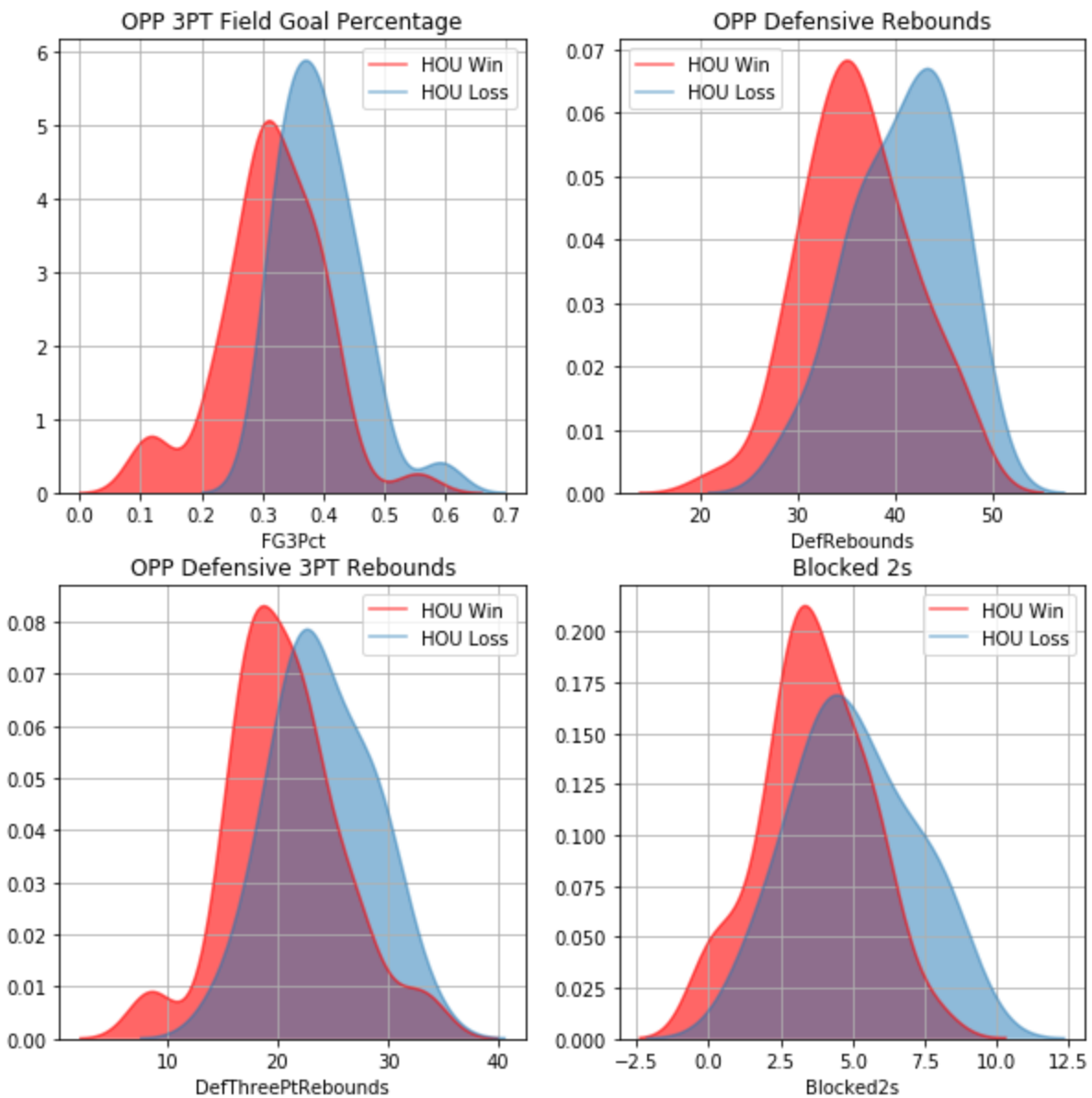
Let's do the same and look at how HOU's opponents do during HOU Wins and Losses.

## HOU Opponents p-values

We can see that the 3 is also important for HOU's opponents, as well as rebounding. It also appears when HOU loses, their opponents record more blocks (Blocked2s, BlockedAtRim, Blocks).

Stat	P-Value	W-Median	L-Median
Points	0	109.9	115.61
Fg3Pct	0	0.35	0.39
NonHeaveFg3Pct	0	0.35	0.39
FirstChancePoints	0.0002	97.63	100
TsPct	0.0003	0.56	0.59
EfgPct	0.0006	0.53	0.56
DefRebounds	0.0009	37.38	41.47
RecoveredBlocks	0.0014	2.84	3.74
Corner3Accuracy	0.0016	0.33	0.39
DefThreePtRebounds	0.0029	22.01	23.04
Corner3FGM	0.0059	2.88	3.76
Blocked2s	0.0074	4	4.72
BlockedAtRim	0.0087	2.84	3.52
FG3M	0.011	11.69	12.32
OffLongMidRangeReboundPct	0.012	0.11	0.21
Blocks	0.0124	4.65	5.38
NonHeaveArc3Accuracy	0.0132	0.35	0.4
Arc3Accuracy	0.0145	0.35	0.39
Corner3Assists	0.0162	2.8	3.76
ShortMidRangeAccuracy	0.0173	0.38	0.41
Rebounds	0.0308	26.58	27.04
PtsUnassisted3s	0.033	5.83	8.33
AssistPoints	0.036	59.16	61.24
ShortMidRangePctBlocked	0.0395	0.08	0.06
Avg2ptShotDistance	0.0421	6.22	6.59
DefFTReboundPct	0.044	1	1
AtRimFGM	0.045	19.81	19.31

Again, here are some examples of the distributions.



The Houston Rockets should look to make a lot of 3's and finish at the rim at a high clip.

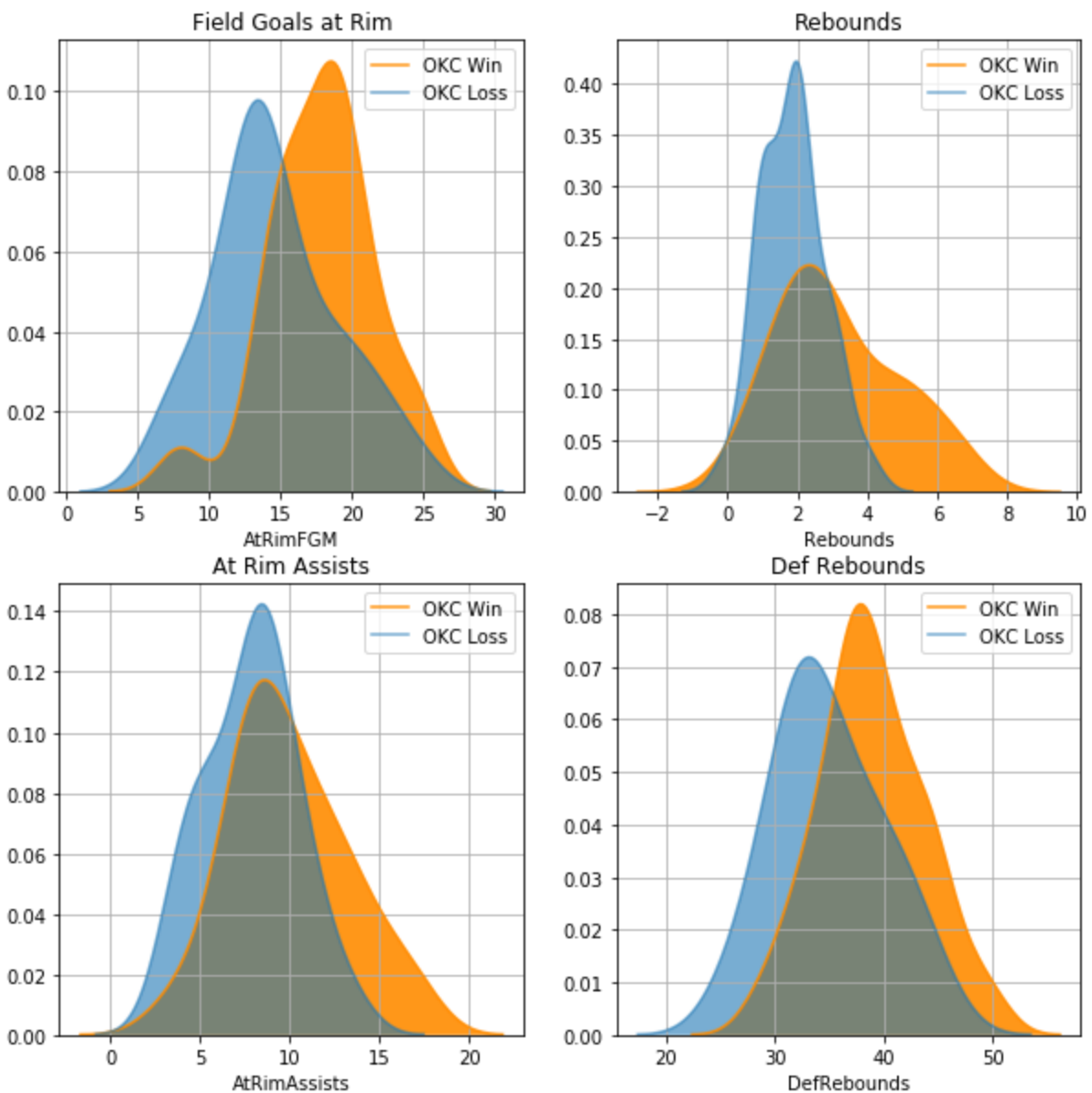
Rocket Opponents need to also shoot 3's well, rebound, and block/contest some layups and shots at the rim.

## OKC THUNDER

Stat	P-Value	W-Median	L-Median
Points	0	115.91	105.34
TsPct	0.0001	0.59	0.54
Fg2Pct	0.0002	0.55	0.48
EfgPct	0.0002	0.55	0.51
Blocked2s	0.0004	5.05	3.16
Blocks	0.0005	5.6	3.5
FG2M	0.0005	30.53	26.83
AtRimFGM	0.0006	18.41	13.78
BlockedAtRim	0.0009	2.96	1.97
FirstChancePoints	0.0013	103	93.52
PtsUnassisted2s	0.0016	35.12	29
DefRebounds	0.0024	38.15	34.37
AtRimAccuracy	0.0035	0.67	0.6
DefThreePtRebounds	0.0057	17.77	14.02
OffTwoPtReboundPct	0.0087	0.3	0.21
LongMidRangeFGM	0.009	6.09	4.69
AtRimAssists	0.0116	9.33	8.12
NonHeaveArc3FGA	0.0118	22	26
Rebounds	0.012	25	22.07
RecoveredBlocks	0.0134	3.28	2.09
ShortMidRangePctAssisted	0.0145	0.3	0.41
Arc3Frequency	0.0146	0.27	0.29
Arc3FGA	0.0153	22.28	26.34
OffCorner3ReboundPct	0.0174	0.17	0.25
SelfORebPct	0.0261	0.05	0.03
FtPoints	0.0265	20.73	17.5
Arc3Accuracy	0.0303	0.38	0.34

NonHeaveArc3Accuracy	0.0375	0.38	0.35
ShortMidRangeAssists	0.0425	2.02	2.97
LongMidRangeFrequency	0.0426	0.14	0.12
LongMidRangeFGA	0.0432	12.31	10.58
OffFGReboundPct	0.045	0.24	0.2

A lot of categories show up in this list, suggesting that the OKC are a little more inconsistent with their levels of play. Keys for OKC appear to be scoring at the rim (field goals at the rim, as well as assists at the rim) and Rebounding.

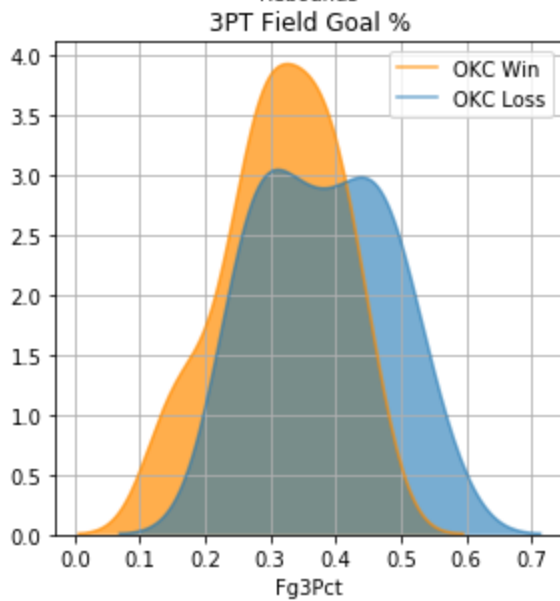
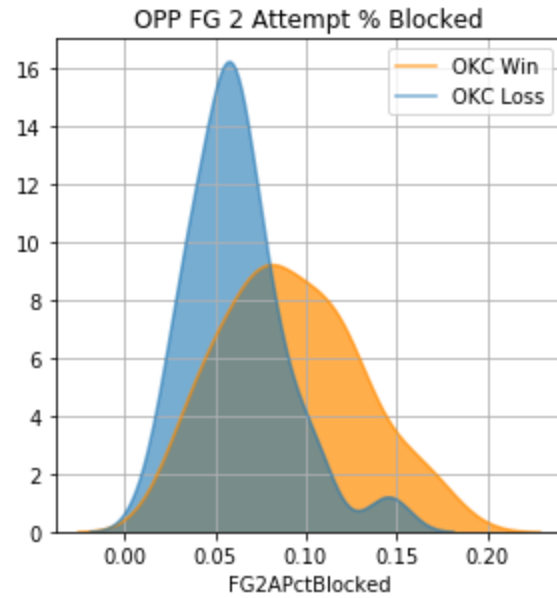
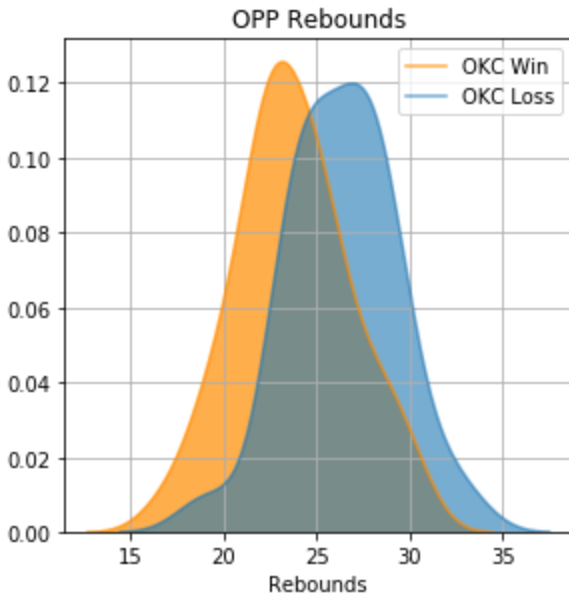


## OKC OPPONENTS

Again we see rebounding playing an important factor here, as well as shooting 3's and finishing at the rim.

Stat	P-Value	W-Median	L-Median
DefRebounds	0	35.02	40.72
DefTwoPtRebounds	0.0001	17.1	21.83
Fg2aBlocked	0.0004	5.05	3.16
FG2APctBlocked	0.0004	0.09	0.06
Rebounds	0.0005	23.41	26.43
EfgPct	0.0011	0.51	0.55
TsPct	0.0011	0.53	0.58
Points	0.0012	105.7	114.87
AtRimPctBlocked	0.0018	0.11	0.07
FirstChancePoints	0.0027	93.51	102.95
DefTwoPtReboundPct	0.0087	0.7	0.79
Corner3Accuracy	0.0099	0.31	0.41
Fg3Pct	0.0122	0.33	0.38
NonHeaveFg3Pct	0.0136	0.33	0.38
DefCorner3ReboundPct	0.035	0.83	0.75
DefThreePtRebounds	0.0392	14.45	16.01
DefFGReboundPct	0.045	0.76	0.8
Arc3Accuracy	0.0462	0.33	0.38

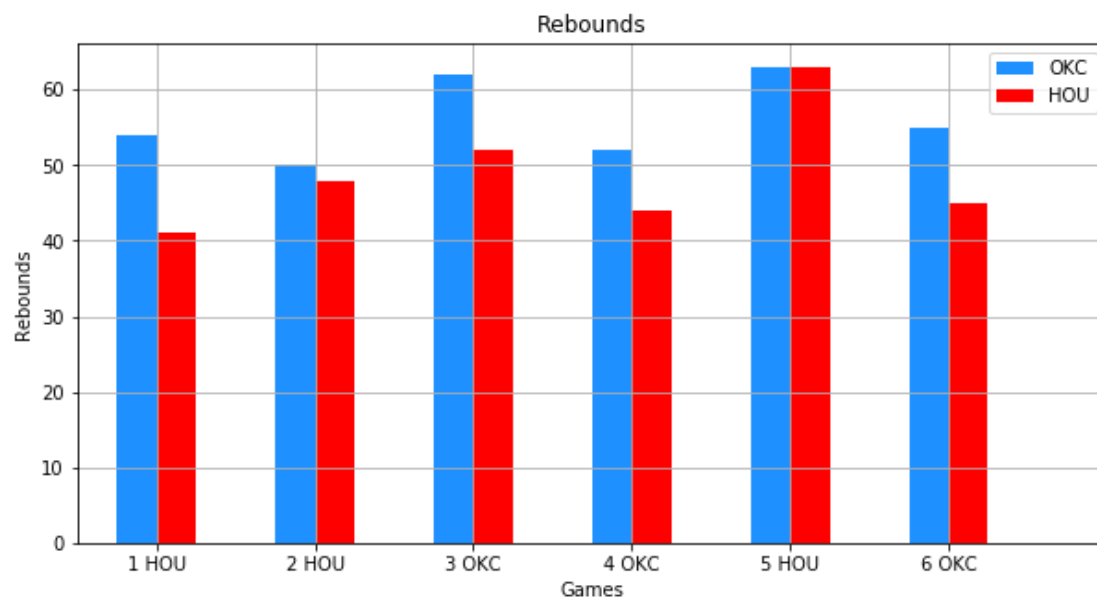
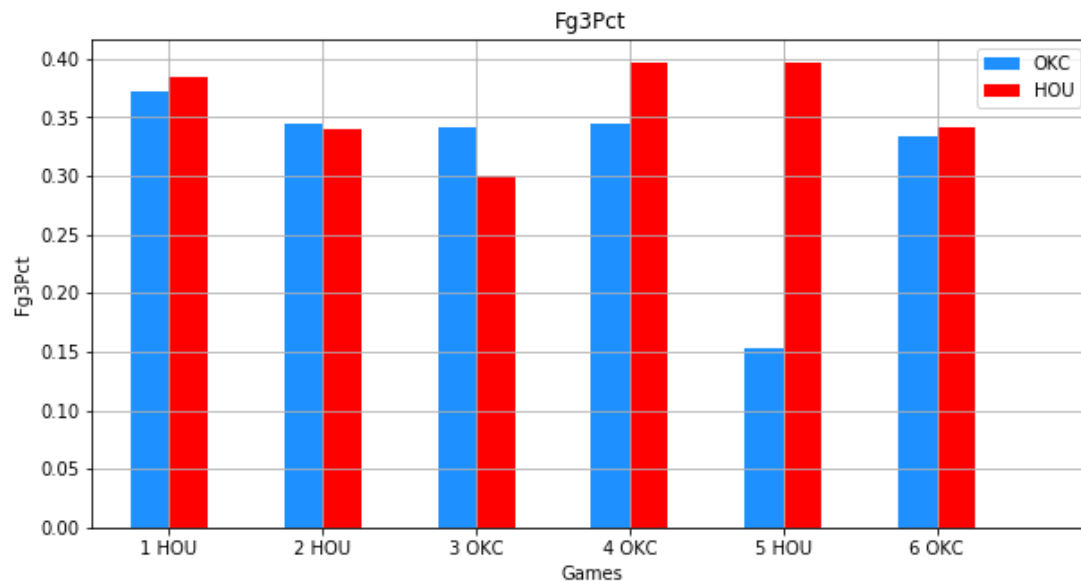




OKC needs to finish at the rim, rebound, and protect the paint.

OKC opponents need to rebound, and shoot 3's well.

## Rebounding and 3's



Based on this analysis, it really does make sense that this series would be so tightly contested. The Houston Rockets are great at shooting 3's, which is what opponents that win against the Thunder generally do well. On the other hand, the Thunder lead the playoffs in rebounds, which is what HOU opponents generally do well when they win. Rebounding is also something that is usually correlated with OKC wins.

With HOU holding an advantage in 3's, and OKC an advantage in rebounding, it'll likely come down to which team can close the game in the other category.