TE Change

May 22, 2019

In [2]:
```
import numpy as np
import pandas as pd
import seaborn as sns
import matplotlib.pyplot as plt
```

In [3]:
```
ls
```

```
Drafts.csv*                 Position Correlation.ipynb*
Lineups.csv*                Standings.csv*
Matchups.csv*               TE Change.ipynb*
POS.csv*
```

In [4]:
```
all_lineups = pd.read_csv('./Lineups.csv',sep = ',')
all_lineups = all_lineups.drop(['Team'],1)
```

In [5]:
```
all_lineups.head()
```

Out[5]:

	Season	Week	Owner	Starter	POS	Name	Fan Pts	\
0	2016-2017	1	Whitmore	1	QB	Ben Roethlisberger	32.3	
1	2016-2017	1	Whitmore	1	RB	Lamar Miller	16.5	
2	2016-2017	1	Whitmore	1	RB	Rashad Jennings	10.1	
3	2016-2017	1	Whitmore	1	WR	Brandon Marshall	4.7	
4	2016-2017	1	Whitmore	1	WR	Jeremy Maclin	14.8	

	% Start	Pass Comp	Pass Yds	...	PAT Miss	Points VS	Sack	\
0	92%	27.0	300.0	...	0.0	0.0	0.0	
1	99%	0.0	0.0	...	0.0	0.0	0.0	
2	34%	0.0	0.0	...	0.0	0.0	0.0	
3	98%	0.0	0.0	...	0.0	0.0	0.0	
4	77%	0.0	0.0	...	0.0	0.0	0.0	

	Safe	Interception	Fum Rec	DEF TD	Blk Kick	DEF Return Yds	\
0	0.0	0.0	0.0	0.0	0.0	0.0	
1	0.0	0.0	0.0	0.0	0.0	0.0	
2	0.0	0.0	0.0	0.0	0.0	0.0	
3	0.0	0.0	0.0	0.0	0.0	0.0	
4	0.0	0.0	0.0	0.0	0.0	0.0	

```
   DEF Return TD
0              0.0
1              0.0
2              0.0
3              0.0
4              0.0

[5 rows x 39 columns]
```

In [6]:
```
all_lineups.shape
```

Out[6]:
```
(9151, 39)
```

In [7]:
```
all_lineups.describe().transpose()
```

Out[7]:

	count	mean	std	min	25%	50%	75%	max
Week	9151.0	8.501147	4.611482	1.0	4.5	9.00	13.00	16.0
Starter	9151.0	0.566168	0.495630	0.0	0.0	1.00	1.00	1.0
Fan Pts	9151.0	10.704773	9.186325	0.0	3.7	9.05	15.16	64.2
Pass Comp	8730.0	2.305155	7.046716	0.0	0.0	0.00	0.00	44.0
Pass Yds	8730.0	26.882818	82.619868	0.0	0.0	0.00	0.00	513.0
Pass TD	8729.0	0.179746	0.655389	0.0	0.0	0.00	0.00	7.0
INT	8730.0	0.077892	0.368454	0.0	0.0	0.00	0.00	5.0
Rush ATT	8730.0	3.555326	6.257522	0.0	0.0	0.00	5.00	38.0
Rush Yds	8721.0	14.932003	29.072017	0.0	0.0	0.00	17.00	236.0
Rush TD	8712.0	0.103535	0.365642	0.0	0.0	0.00	0.00	3.0
Tgt	8707.0	3.559665	3.942671	0.0	0.0	2.00	6.00	33.0
Rec	8707.0	2.305386	2.652840	0.0	0.0	1.00	4.00	17.0
Rec Yds	8707.0	26.416676	35.716123	0.0	0.0	10.00	43.00	300.0
Rec TD	8707.0	0.161594	0.425691	0.0	0.0	0.00	0.00	3.0
Return Yds	8707.0	2.022970	11.387437	0.0	0.0	0.00	0.00	200.0
Return TD	8707.0	0.001608	0.040069	0.0	0.0	0.00	0.00	1.0
2PT	8563.0	0.017868	0.136815	0.0	0.0	0.00	0.00	2.0
Fum Lost	8563.0	0.054420	0.240843	0.0	0.0	0.00	0.00	3.0
0 19 Yrds	6478.0	0.001389	0.037251	0.0	0.0	0.00	0.00	1.0
20 29 Yrds	6478.0	0.043841	0.251458	0.0	0.0	0.00	0.00	3.0
30 39 Yrds	6478.0	0.048317	0.261194	0.0	0.0	0.00	0.00	3.0
40 49 Yrds	6478.0	0.047237	0.258720	0.0	0.0	0.00	0.00	4.0
50+ Yrds	6478.0	0.020222	0.153368	0.0	0.0	0.00	0.00	3.0
PAT Made	6478.0	0.209633	0.784806	0.0	0.0	0.00	0.00	7.0
PAT Miss	6478.0	0.018061	0.386767	0.0	0.0	0.00	0.00	23.0
Points VS	6539.0	2.211194	7.034105	0.0	0.0	0.00	0.00	51.0
Sack	6539.0	0.283377	2.082936	0.0	0.0	0.00	0.00	151.0
Safe	6539.0	0.004435	0.068716	0.0	0.0	0.00	0.00	2.0
Interception	6539.0	0.098027	0.433770	0.0	0.0	0.00	0.00	5.0
Fum Rec	6539.0	0.065148	0.320181	0.0	0.0	0.00	0.00	4.0
DEF TD	6539.0	0.020798	0.181414	0.0	0.0	0.00	0.00	8.0
Blk Kick	6539.0	0.015293	0.387253	0.0	0.0	0.00	0.00	30.0

```
DEF Return Yds  6538.0   7.218568  25.186375  0.0  0.0   0.00   0.00  323.0
DEF Return TD   6538.0   0.004283   0.067609  0.0  0.0   0.00   0.00    2.0
```

In [8]:
```
lineups = all_lineups[all_lineups['POS'].isin(["RB","TE","WR"]) & all_lineups.Starter =
```

In [9]:
```
lineups['Full_PPR'] = np.where(lineups['POS']=='TE',(lineups['Rec']*1) + (lineups['Rec
lineups['Half_PPR'] = np.where(lineups['POS']=='TE',(lineups['Rec']*.5) + (lineups['Re
lineups['Eigth_PPR'] = np.where(lineups['POS']=='TE',(lineups['Rec']*.8) + (lineups['R
```

```
/Users/aclark/anaconda3/lib/python3.6/site-packages/ipykernel_launcher.py:1: SettingWithCopyWar
A value is trying to be set on a copy of a slice from a DataFrame.
Try using .loc[row_indexer,col_indexer] = value instead

See the caveats in the documentation: http://pandas.pydata.org/pandas-docs/stable/indexing.html
  """Entry point for launching an IPython kernel.
/Users/aclark/anaconda3/lib/python3.6/site-packages/ipykernel_launcher.py:2: SettingWithCopyWar
A value is trying to be set on a copy of a slice from a DataFrame.
Try using .loc[row_indexer,col_indexer] = value instead

See the caveats in the documentation: http://pandas.pydata.org/pandas-docs/stable/indexing.html

/Users/aclark/anaconda3/lib/python3.6/site-packages/ipykernel_launcher.py:3: SettingWithCopyWar
A value is trying to be set on a copy of a slice from a DataFrame.
Try using .loc[row_indexer,col_indexer] = value instead

See the caveats in the documentation: http://pandas.pydata.org/pandas-docs/stable/indexing.html
  This is separate from the ipykernel package so we can avoid doing imports until
```

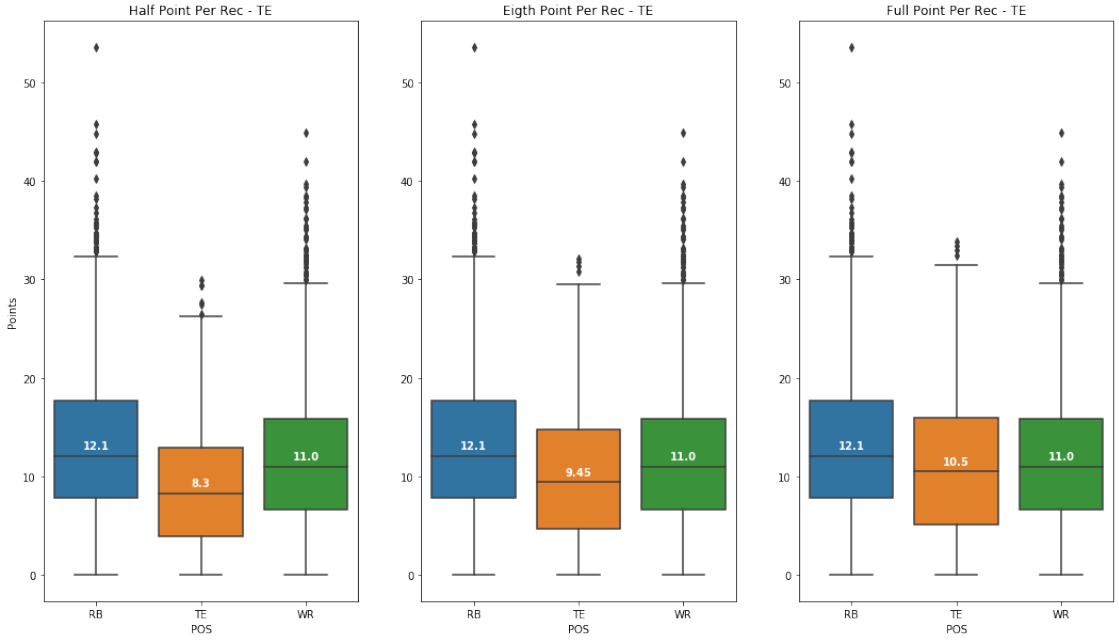
In [10]:
```
lineups_plt = lineups[['POS','Rec','Rec Yds','Rec TD','Full_PPR','Half_PPR','Eigth_PPR
lineups_plt.head()
```

Out[10]:

	POS	Rec	Rec Yds	Rec TD	Full_PPR	Half_PPR	Eigth_PPR
1	RB	4.0	11.0	0.0	16.5	16.5	16.5
2	RB	1.0	3.0	0.0	10.1	10.1	10.1
3	WR	3.0	32.0	0.0	4.7	4.7	4.7
4	WR	5.0	63.0	1.0	14.8	14.8	14.8
5	TE	3.0	14.0	0.0	4.4	2.9	3.8

In [11]:
```
dim= (18,10)
fig, axs = plt.subplots(figsize=dim,ncols=3)

# Full point Plot

ax = sns.boxplot(x=lineups_plt['POS'], y=lineups_plt['Full_PPR'], order=["RB","TE","WR
medians = lineups_plt.groupby(['POS'])['Full_PPR'].median().values
median_labels = [str(np.round(s, 2)) for s in medians]

pos = range(len(medians))
```

```
for tick,label in zip(pos,ax.get_xticklabels()):
    ax.text(pos[tick], medians[tick]+.7, median_labels[tick],
            horizontalalignment='center', size='medium', color='w', weight='semibold')
ax.set_ylabel('')
ax.set_title('Full Point Per Rec - TE')

# Eigth Point Plot

ax = sns.boxplot(x=lineups_plt['POS'], y=lineups_plt['Eigth_PPR'], order=["RB","TE","W
medians = lineups_plt.groupby(['POS'])['Eigth_PPR'].median().values
median_labels = [str(np.round(s, 2)) for s in medians]

pos = range(len(medians))
for tick,label in zip(pos,ax.get_xticklabels()):
    ax.text(pos[tick], medians[tick]+.7, median_labels[tick],
            horizontalalignment='center', size='medium', color='w', weight='semibold')
ax.set_ylabel('')
ax.set_title('Eigth Point Per Rec - TE')

# Half Point Plot

ax = sns.boxplot(x=lineups_plt['POS'], y=lineups_plt['Half_PPR'], order=["RB","TE","WR
medians = lineups_plt.groupby(['POS'])['Half_PPR'].median().values
median_labels = [str(np.round(s, 2)) for s in medians]

pos = range(len(medians))
for tick,label in zip(pos,ax.get_xticklabels()):
    ax.text(pos[tick], medians[tick]+.7, median_labels[tick],
            horizontalalignment='center', size='medium', color='w', weight='semibold')

ax.set_ylabel('Points')
ax.set_title('Half Point Per Rec - TE')


plt.show()
```


Half Point Per Rec - TE
Eigth Point Per Rec - TE
Full Point Per Rec - TE
Points
POS
RB
TE
WR
12.1
8.3
11.0
9.45
10.5