Blog2

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Plot 1

```
library(dplyr)
```

```
##
## Attaching package: 'dplyr'
```

```
## The following objects are masked from 'package:stats':
##
##     filter, lag
```

```
## The following objects are masked from 'package:base':
##
##     intersect, setdiff, setequal, union
```

```
library(tidyverse)
```

```
## -- Attaching packages ---------------------------------- tidyverse 1.2.1 --
```

```
## v ggplot2 2.2.1     v readr   1.1.1
## v tibble  1.4.2     v purrr   0.2.4
## v tidyr   0.8.0     v stringr 1.3.0
## v ggplot2 2.2.1     v forcats 0.3.0
```

```
## -- Conflicts ------------------------------------- tidyverse_conflicts() --
## x dplyr::filter() masks stats::filter()
## x dplyr::lag()    masks stats::lag()
```

```
library(ggplot2)
library(scales)
```

```
##
## Attaching package: 'scales'
```

```
## The following object is masked from 'package:purrr':
##
##     discard
```

```
## The following object is masked from 'package:readr':
##
##     col_factor
```

```
library("ggthemes")

 # setwd("C:/Users/yasit/Desktop/Blog")
min <- read.csv(file ="usg2.csv", header = T)
head(min)
```

```
##   ï..Rk         Player Pos Age  Tm  G MP.â..  PER   TS. X3PAr   FTr ORB.
## 1     1   LeBron James  PF  33 CLE 19    790 33.7 0.624 0.229 0.414  3.9
## 2     2 Draymond Green  PF  27 GSW 18    700 16.7 0.527 0.407 0.262  6.3
## 3     3   Terry Rozier  PG  23 BOS 19    696 17.3 0.538 0.553 0.211  1.3
```

```
## 4     4  Klay Thompson  SG  27 GSW 18    691 14.6 0.580 0.451 0.094  1.8
## 5     5   Kevin Durant  PF  29 GSW 18    688 23.7 0.589 0.323 0.354  1.8
## 6     6   Jayson Tatum  SF  19 BOS 19    683 16.2 0.578 0.272 0.372  1.6
##   DRB. TRB. AST. STL. BLK. TOV. USG.  X OWS DWS  WS WS.48 X.1 OBPM DBPM
## 1 22.5 13.2 46.3  1.7  2.3 13.0 36.2 NA 3.9 1.0 4.9 0.296  NA 10.9  4.0
## 2 25.6 16.3 28.0  2.7  3.5 23.8 16.0 NA 0.6 1.7 2.3 0.156  NA  1.5  6.0
## 3 15.5  8.2 26.3  1.8  0.8  7.0 20.7 NA 1.3 0.9 2.2 0.149  NA  3.6  0.9
## 4  9.6  5.8  7.9  1.0  0.6  7.8 22.3 NA 0.8 0.8 1.6 0.114  NA  2.5 -1.4
## 5 18.1 10.2 18.6  0.9  2.5  8.7 31.1 NA 1.9 1.1 3.0 0.210  NA  4.7  0.1
## 6 12.6  7.0 13.3  1.7  1.3 11.9 23.3 NA 0.8 0.8 1.6 0.116  NA  0.6  0.7
##    BPM VORP
## 1 14.9  3.4
## 2  7.5  1.7
## 3  4.5  1.1
## 4  1.1  0.5
## 5  4.8  1.2
## 6  1.3  0.6
```

```
min <- min %>%
       filter(min$MP.â.. > 300)

ggplot(min, aes(x= MP.â.. , y= USG., colour="Tm", label=Player))+
  geom_point() +
geom_text(aes(label=ifelse(MP.â..> 700 ,as.character(Player),'')),hjust=0.9,vjust=-0.5) +
  ggtitle("Is this guy human?", subtitle = "Usage Rate vs. Minutes per game, for players with at least 3
  theme_fivethirtyeight()
```

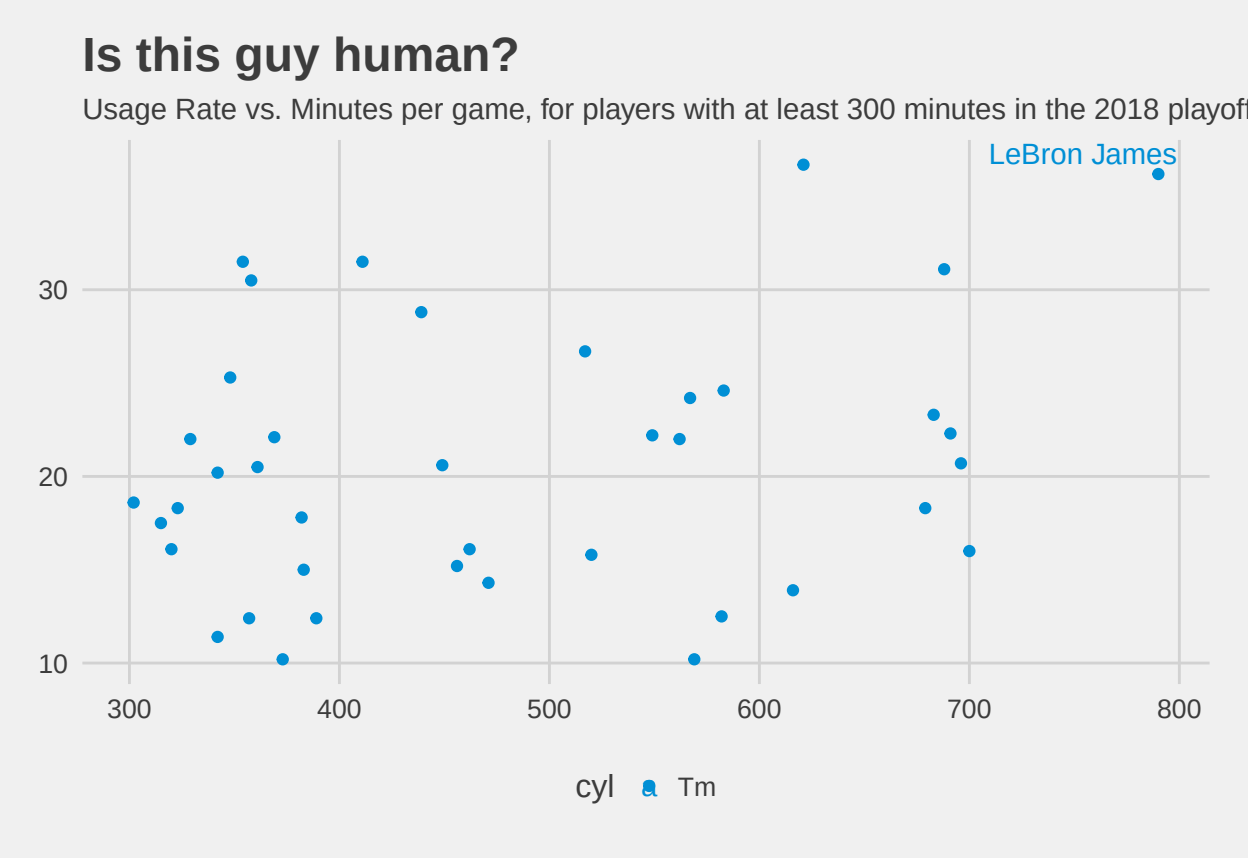


Table of Percent per rd by player

percent points = points scored by player/ totoal points by both teams per round

sum(points by player) group by round

sum(points by rd)

```
percent <- read.csv('PLAYOFFSDB.csv', header = TRUE )
 head(percent)
```

```
##   ï..Rk            Player TEAM RD Age G GS  MP FG FGA X3P X3PA FT FTA ORB
## 1     1 Jonas Valanciunas   TR RW  25 6  6 148 33  57   2    3 13  15  14
## 2     2       Serge Ibaka   TR RW  28 6  6 172 19  44   6   14  9  13   7
## 3     3        Kyle Lowry   TR RW  31 6  6 217 36  76  17   39 14  18   2
## 4     4      Jakob Poeltl   TR RW  22 6  0  96 14  22   0    1  9  13  12
## 5     5     Pascal Siakam   TR RW  23 6  0  96 14  25   2    3  8  12   6
## 6     6     DeMar DeRozan   TR RW  28 6  6 218 58 133  10   26 34  42   3
##   DRB TRB AST STL BLK TOV PF PTS   FG.  X3P.   FT. MP.1 PTS.1 TRB.1 AST.1
## 1  42  56   6   4   8  10 12  81 0.579 0.667 0.867 24.6  13.5   9.3   1.0
## 2  35  42   7   1   8   9 12  53 0.432 0.429 0.692 28.7   8.8   7.0   1.2
## 3  27  29  50  12   0  18 22 103 0.474 0.436 0.778 36.1  17.2   4.8   8.3
## 4  14  26   5   2   3   7 20  37 0.636 0.000 0.692 16.1   6.2   4.3   0.8
## 5  18  24   5   1   6   3 13  38 0.560 0.667 0.667 16.0   6.3   4.0   0.8
## 6  17  20  29   2   1  15  9 160 0.436 0.385 0.810 36.4  26.7   3.3   4.8
##   STL.1 BLK.1
## 1   0.7   1.3
## 2   0.2   1.3
## 3   2.0   0.0
## 4   0.3   0.5
## 5   0.2   1.0
## 6   0.3   0.2
```

player_scorepercent(x,r) = player_score(x,r)/ sum(team_score(r))

Points

```
## Warning: Unknown or uninitialised column: 'percentage'.
```

```
## # A tibble: 356 x 5
##    Round TotalPoints Player            PlayerPoints percentage
##    <fct>       <int> <fct>                    <int>      <dbl>
##  1 CI           1368 LeBron James               241      0.176
##  2 CB           1360 LeBron James               235      0.173
##  3 CT            892 LeBron James               136      0.152
##  4 NP            880 Anthony Davis              132      0.150
##  5 GR           1441 Kevin Durant               213      0.148
##  6 UO           1240 Russell Westbrook          176      0.142
##  7 GR           1441 James Harden               201      0.139
##  8 GS           1012 Kevin Durant               141      0.139
##  9 UO           1240 Donovan Mitchell           171      0.138
```

```
## 10 HM           1060 James Harden               145      0.137
## # ... with 346 more rows
```

Assists

```
sumassits <- percent%>%
  group_by(RD) %>%
  summarise(sum(AST))

playerassits <- percent %>%
  group_by(Player, RD)%>%
  summarise(sum(AST))

assistspercent <-full_join(sumassits, playerassits, by= "RD")
colnames(assistspercent) <- c("Round", "Totalassits", "Player", "Playerassits")

for(i in 1:nrow(assistspercent)){
  assistspercent$percentage[i] <- assistspercent$Playerassits[i] / assistspercent$Totalassits[i]
}
```

```
## Warning: Unknown or uninitialised column: 'percentage'.
```

```
assistspercent %>%
  arrange(desc(percentage))
```

```
## # A tibble: 356 x 5
##    Round Totalassits Player            Playerassits percentage
##    <fct>       <int> <fct>                    <int>      <dbl>
##  1 NP            182 Rajon Rondo                 53      0.291
##  2 RW            273 John Wall                   69      0.253
##  3 CT            182 LeBron James                45      0.247
##  4 CB            271 LeBron James                59      0.218
##  5 UO            218 Russell Westbrook           45      0.206
##  6 CI            268 LeBron James                54      0.201
##  7 GP            290 Rajon Rondo                 57      0.197
##  8 UO            218 Ricky Rubio                 42      0.193
##  9 CT            182 Kyle Lowry                  35      0.192
## 10 RW            273 Kyle Lowry                  50      0.183
## # ... with 346 more rows
```

Rebounds

```
sumrebs <- percent%>%
  group_by(RD) %>%
  summarise(sum(TRB))

playerreb <- percent %>%
  group_by(Player, RD)%>%
  summarise(sum(TRB))

rebpercent <-full_join(sumrebs, playerreb, by= "RD")
```

```r
colnames(rebpercent) <- c("Round", "Totalreb", "Player", "Playerreb")

for(i in 1:nrow(rebpercent)){
  rebpercent$percentage[i] <- rebpercent$Playerreb[i] / rebpercent$Totalreb[i]
}
```

```
## Warning: Unknown or uninitialised column: 'percentage'.
```

```r
rebpercent %>%
  arrange(desc(percentage))
```

```
## # A tibble: 356 x 5
##    Round Totalreb Player             Playerreb percentage
##    <fct>    <int> <fct>                  <int>      <dbl>
##  1 HM         442 Clint Capela              71      0.161
##  2 CT         310 Jonas Valanciunas         49      0.158
##  3 BP         452 Joel Embiid               70      0.155
##  4 GP         484 Anthony Davis             74      0.153
##  5 HM         442 Karl-Anthony Towns        67      0.152
##  6 CT         310 Kevin Love                46      0.148
##  7 GR         594 Draymond Green            83      0.140
##  8 NP         347 Anthony Davis             47      0.135
##  9 UO         545 Russell Westbrook         72      0.132
## 10 GS         425 Draymond Green            56      0.132
## # ... with 346 more rows
```

```r
df <-merge( Scorepercent,
  merge(assistspercent, rebpercent, by.x = (c("Round", "Player")), by.y = c("Round", "Player")),
  by.x = c("Round", "Player"), by.y = c("Round", "Player")
)

# df1 <-
  df1 <- data.frame(df %>%
        select("Round", "Player", "percentage", "percentage.x", "percentage.y")  %>% #x =assits, #y = r
          rowwise() %>%
          mutate(average = mean(c(percentage, percentage.x, percentage.y))) %>%
          ungroup() %>%
          arrange(desc(average)))

  # x <- function(div){

  # }
  colnames(df1) <- c("Round", "Player", "PPTS", "PASST", "PREBS", "ALL")

head(df1)
```

```
##   Round            Player       PPTS     PASST      PREBS       ALL
## 1    CT      LeBron James 0.15246637 0.2472527 0.10645161 0.1687236
## 2    CI      LeBron James 0.17616959 0.2014925 0.12704174 0.1682346
## 3    CB      LeBron James 0.17279412 0.2177122 0.10787671 0.1661277
## 4    UO Russell Westbrook 0.14193548 0.2064220 0.13211009 0.1601559
## 5    RW         John Wall 0.12018490 0.2527473 0.07039337 0.1477752
## 6    NP       Rajon Rondo 0.05113636 0.2912088 0.08645533 0.1429335
```

```r
df1[1:25,]
```

```
##    Round                Player       PPTS      PASST      PREBS       ALL
## 1     CT          LeBron James 0.15246637 0.24725275 0.10645161 0.1687236
## 2     CI          LeBron James 0.17616959 0.20149254 0.12704174 0.1682346
## 3     CB          LeBron James 0.17279412 0.21771218 0.10787671 0.1661277
## 4     UO     Russell Westbrook 0.14193548 0.20642202 0.13211009 0.1601559
## 5     RW            John Wall 0.12018490 0.25274725 0.07039337 0.1477752
## 6     NP           Rajon Rondo 0.05113636 0.29120879 0.08645533 0.1429335
## 7     BM Giannis Antetokounmpo 0.12587413 0.14426230 0.11713287 0.1290898
## 8     PM           Ben Simmons 0.08363971 0.17857143 0.11648352 0.1262316
## 9     CI        Victor Oladipo 0.11622807 0.15671642 0.10526316 0.1260692
## 10    HU          James Harden 0.13513514 0.18048780 0.05963303 0.1250853
## 11    GR          James Harden 0.13948647 0.16030534 0.06565657 0.1218161
## 12    GS        Draymond Green 0.05632411 0.17467249 0.13176471 0.1209204
## 13    HM          James Harden 0.13679245 0.17129630 0.05429864 0.1207958
## 14    GP        Draymond Green 0.06684734 0.17241379 0.12190083 0.1203873
## 15    GR        Draymond Green 0.04024983 0.17938931 0.13973064 0.1197899
## 16    GS          Kevin Durant 0.13932806 0.11353712 0.10117647 0.1180139
## 17    GR         Stephen Curry 0.12144344 0.15267176 0.07744108 0.1171854
## 18    HU            Chris Paul 0.11872587 0.15121951 0.08027523 0.1167402
## 19    BP           Joel Embiid 0.10962822 0.07894737 0.15486726 0.1144809
## 20    UO           Ricky Rubio 0.06774194 0.19266055 0.08073394 0.1137121
## 21    RW            Kyle Lowry 0.07935285 0.18315018 0.06004141 0.1075148
## 22    GP           Rajon Rondo 0.04336043 0.19655172 0.07851240 0.1061415
## 23    CT            Kyle Lowry 0.07959641 0.19230769 0.04516129 0.1056885
## 24    NP          Jrue Holiday 0.12613636 0.14285714 0.04610951 0.1050343
## 25    GP         Anthony Davis 0.12556459 0.03448276 0.15289256 0.1043133
```

Graphic 3

```
jointab <- left_join(df1, percent, by = c("Round"="RD", "Player"="Player")) %>%
  select(Round, TEAM, Player, PPTS, PASST, PREBS, ALL)
# jointab %>% group_by(Round) %>% arrange(Round, desc(ALL) ) %>% filter(Round == "CB")
```

```
x <- jointab %>%
  group_by( Round) %>%
  top_n(n = 4, wt = ALL) %>%
  arrange(Round, desc(ALL))

listx <- select(jointab, c("Round", "TEAM", "Player"))

head(x)
```

```
## # A tibble: 6 x 7
## # Groups:   Round [2]
##   Round TEAM  Player                 PPTS  PASST  PREBS    ALL
##   <fct> <fct> <fct>                 <dbl>  <dbl>  <dbl>  <dbl>
## 1 BM    MB    Giannis Antetokounmpo 0.126  0.144  0.117  0.129
## 2 BM    BC    Terry Rozier          0.0860 0.154  0.0524 0.0975
## 3 BM    BC    Al Horford            0.0888 0.0754 0.107  0.0903
## 4 BM    MB    Khris Middleton       0.121  0.0721 0.0629 0.0853
## 5 BP    PS    Joel Embiid           0.110  0.0789 0.155  0.114
## 6 BP    PS    Ben Simmons           0.0686 0.140  0.0907 0.0999
```

```r
library(data.table)
```

```
##
## Attaching package: 'data.table'
```

```
## The following object is masked from 'package:purrr':
##
##     transpose
```

```
## The following objects are masked from 'package:dplyr':
##
##     between, first, last
```

```r
x <- data.table(x)
setkey(x, "TEAM")


# x %>% group_by(Round) %>%
  x[!duplicated(x)]
```

```
##     Round TEAM                Player       PPTS      PASST      PREBS
##  1:    BM   BC          Terry Rozier 0.08601399 0.15409836 0.05244755
##  2:    BM   BC            Al Horford 0.08881119 0.07540984 0.10664336
##  3:    BP   BC          Terry Rozier 0.09056244 0.09649123 0.07964602
##  4:    CB   BC          Terry Rozier 0.06985294 0.14760148 0.05821918
##  5:    CB   BC          Marcus Smart 0.04558824 0.16605166 0.04109589
##  6:    CB   BC            Al Horford 0.06985294 0.08487085 0.09075342
##  7:    CB   CC          LeBron James 0.17279412 0.21771218 0.10787671
##  8:    CI   CC          LeBron James 0.17616959 0.20149254 0.12704174
##  9:    CI   CC            Kevin Love 0.05847953 0.02611940 0.11796733
## 10:    CT   CC          LeBron James 0.15246637 0.24725275 0.10645161
## 11:    CT   CC            Kevin Love 0.09192825 0.03296703 0.14838710
## 12:    GP   GW        Draymond Green 0.06684734 0.17241379 0.12190083
## 13:    GP   GW          Kevin Durant 0.12556459 0.08275862 0.07644628
## 14:    GR   GW        Draymond Green 0.04024983 0.17938931 0.13973064
## 15:    GR   GW         Stephen Curry 0.12144344 0.15267176 0.07744108
## 16:    GR   GW          Kevin Durant 0.14781402 0.07251908 0.06734007
## 17:    GS   GW        Draymond Green 0.05632411 0.17467249 0.13176471
## 18:    GS   GW          Kevin Durant 0.13932806 0.11353712 0.10117647
## 19:    GS   GW         Klay Thompson 0.11166008 0.06113537 0.03529412
## 20:    GR   HR          James Harden 0.13948647 0.16030534 0.06565657
## 21:    HM   HR          James Harden 0.13679245 0.17129630 0.05429864
## 22:    HM   HR            Chris Paul 0.08962264 0.15277778 0.04524887
## 23:    HM   HR          Clint Capela 0.07452830 0.03240741 0.16063348
## 24:    HU   HR          James Harden 0.13513514 0.18048780 0.05963303
## 25:    HU   HR            Chris Paul 0.11872587 0.15121951 0.08027523
## 26:    HU   HR          Clint Capela 0.06274131 0.04390244 0.11697248
## 27:    CI   IP        Victor Oladipo 0.11622807 0.15671642 0.10526316
## 28:    CI   IP       Darren Collison 0.05774854 0.12313433 0.03811252
## 29:    BM   MB Giannis Antetokounmpo 0.12587413 0.14426230 0.11713287
## 30:    BM   MB       Khris Middleton 0.12097902 0.07213115 0.06293706
## 31:    PM   MH         James Johnson 0.05698529 0.09523810 0.06593407
## 32:    PM   MH          Goran Dragic 0.08547794 0.09126984 0.02857143
## 33:    HM   MT    Karl-Anthony Towns 0.07169811 0.05092593 0.15158371
## 34:    GP   NO           Rajon Rondo 0.04336043 0.19655172 0.07851240
```

```
## 35:    GP   NO         Anthony Davis 0.12556459 0.03448276 0.15289256
## 36:    NP   NO           Rajon Rondo 0.05113636 0.29120879 0.08645533
## 37:    NP   NO         Jrue Holiday 0.12613636 0.14285714 0.04610951
## 38:    NP   NO         Anthony Davis 0.15000000 0.02747253 0.13544669
## 39:    UO   OC     Russell Westbrook 0.14193548 0.20642202 0.13211009
## 40:    UO   OC          Paul George 0.11935484 0.07339450 0.06605505
## 41:    BP   PS          Joel Embiid 0.10962822 0.07894737 0.15486726
## 42:    BP   PS          Ben Simmons 0.06863680 0.14035088 0.09070796
## 43:    BP   PS          Dario Saric 0.08484271 0.07894737 0.08628319
## 44:    PM   PS          Ben Simmons 0.08363971 0.17857143 0.11648352
## 45:    PM   PS          Dario Saric 0.07628676 0.06746032 0.07472527
## 46:    NP   PT       Damian Lillard 0.08409091 0.10439560 0.05187320
## 47:    GS   SS     LaMarcus Aldridge 0.11660079 0.05240175 0.10823529
## 48:    CT   TR           Kyle Lowry 0.07959641 0.19230769 0.04516129
## 49:    CT   TR     Jonas Valanciunas 0.07286996 0.03296703 0.15806452
## 50:    RW   TR           Kyle Lowry 0.07935285 0.18315018 0.06004141
## 51:    RW   TR        DeMar DeRozan 0.12326656 0.10622711 0.04140787
## 52:    HU   UJ      Donovan Mitchell 0.09362934 0.14634146 0.05045872
## 53:    UO   UJ          Ricky Rubio 0.06774194 0.19266055 0.08073394
## 54:    UO   UJ      Donovan Mitchell 0.13790323 0.07339450 0.07889908
## 55:    RW   WW            John Wall 0.12018490 0.25274725 0.07039337
## 56:    RW   WW         Bradley Beal 0.10708783 0.06227106 0.04140787
##     Round TEAM               Player       PPTS      PASST      PREBS
##             ALL
##  1: 0.09751997
##  2: 0.09028813
##  3: 0.08889990
##  4: 0.09189120
##  5: 0.08424526
##  6: 0.08182574
##  7: 0.16612767
##  8: 0.16823462
##  9: 0.06752209
## 10: 0.16872358
## 11: 0.09109413
## 12: 0.12038732
## 13: 0.09492316
## 14: 0.11978993
## 15: 0.11718543
## 16: 0.09589106
## 17: 0.12092044
## 18: 0.11801388
## 19: 0.06936319
## 20: 0.12181613
## 21: 0.12079580
## 22: 0.09588310
## 23: 0.08918973
## 24: 0.12508532
## 25: 0.11674020
## 26: 0.07453874
## 27: 0.12606922
## 28: 0.07299846
## 29: 0.12908976
## 30: 0.08534908
```

```
## 31: 0.07271915
## 32: 0.06843974
## 33: 0.09140258
## 34: 0.10614152
## 35: 0.10431330
## 36: 0.14293350
## 37: 0.10503434
## 38: 0.10430640
## 39: 0.16015586
## 40: 0.08626813
## 41: 0.11448095
## 42: 0.09989855
## 43: 0.08335775
## 44: 0.12623155
## 45: 0.07282412
## 46: 0.08011990
## 47: 0.09241261
## 48: 0.10568847
## 49: 0.08796717
## 50: 0.10751481
## 51: 0.09030051
## 52: 0.09680984
## 53: 0.11371214
## 54: 0.09673227
## 55: 0.14777518
## 56: 0.07025559
##             ALL
```

```
x1 <-x %>% distinct( Round, TEAM, .keep_all = TRUE) %>% arrange(Round, desc(ALL))
```

```
for ( i in 1:nrow(x1)){
  x1$diff[i] <- x1$ALL[i] - x1$ALL[i+1]
}

x1 <- x1 %>% arrange(Round, desc(ALL))
```

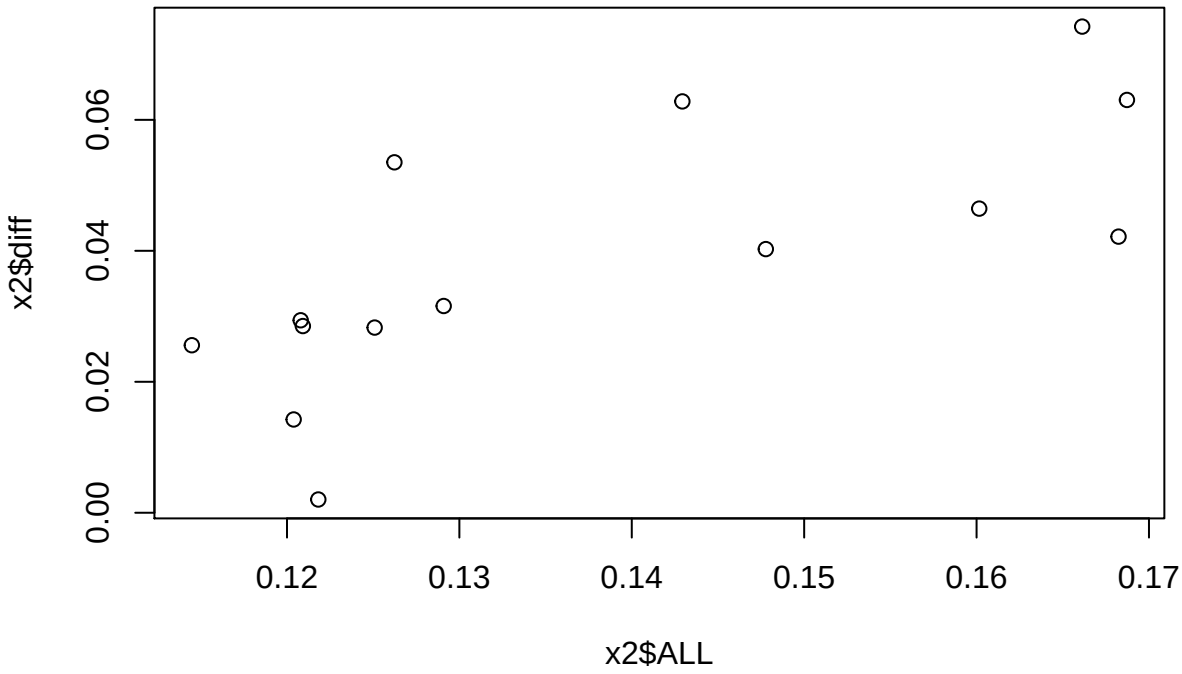
```
toDelete <- seq(1, nrow(x1), 2)
x2 <- x1[ toDelete ,]

x2 <- x2 %>% arrange(Round, desc(ALL))
head(x2)
```

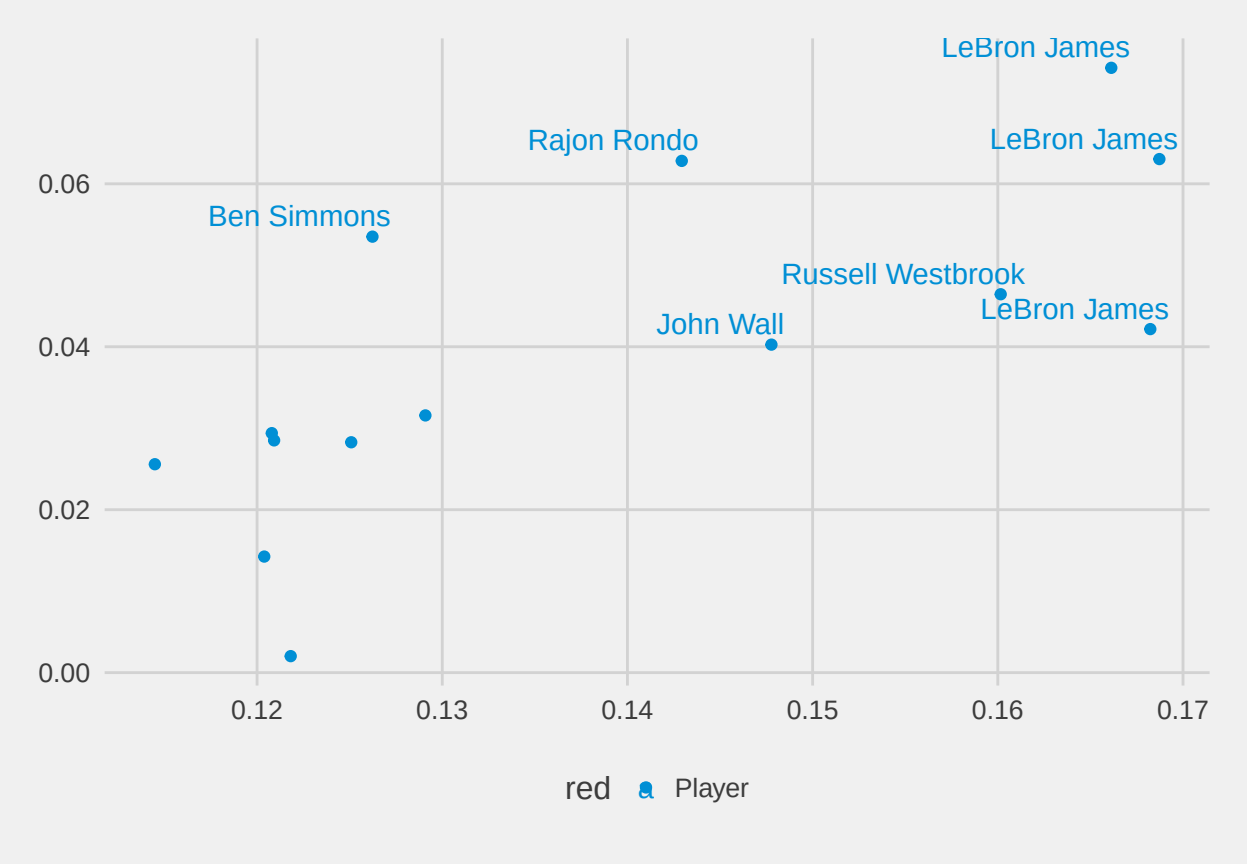
```
##   Round TEAM                Player       PPTS      PASST     PREBS
## 1    BM   MB Giannis Antetokounmpo 0.12587413 0.14426230 0.1171329
## 2    BP   PS           Joel Embiid 0.10962822 0.07894737 0.1548673
## 3    CB   CC          LeBron James 0.17279412 0.21771218 0.1078767
## 4    CI   CC          LeBron James 0.17616959 0.20149254 0.1270417
## 5    CT   CC          LeBron James 0.15246637 0.24725275 0.1064516
## 6    GP   GW        Draymond Green 0.06684734 0.17241379 0.1219008
##          ALL       diff
## 1 0.1290898 0.03156980
## 2 0.1144809 0.02558105
## 3 0.1661277 0.07423647
## 4 0.1682346 0.04216541
## 5 0.1687236 0.06303511
```

```
## 6 0.1203873 0.01424580
```

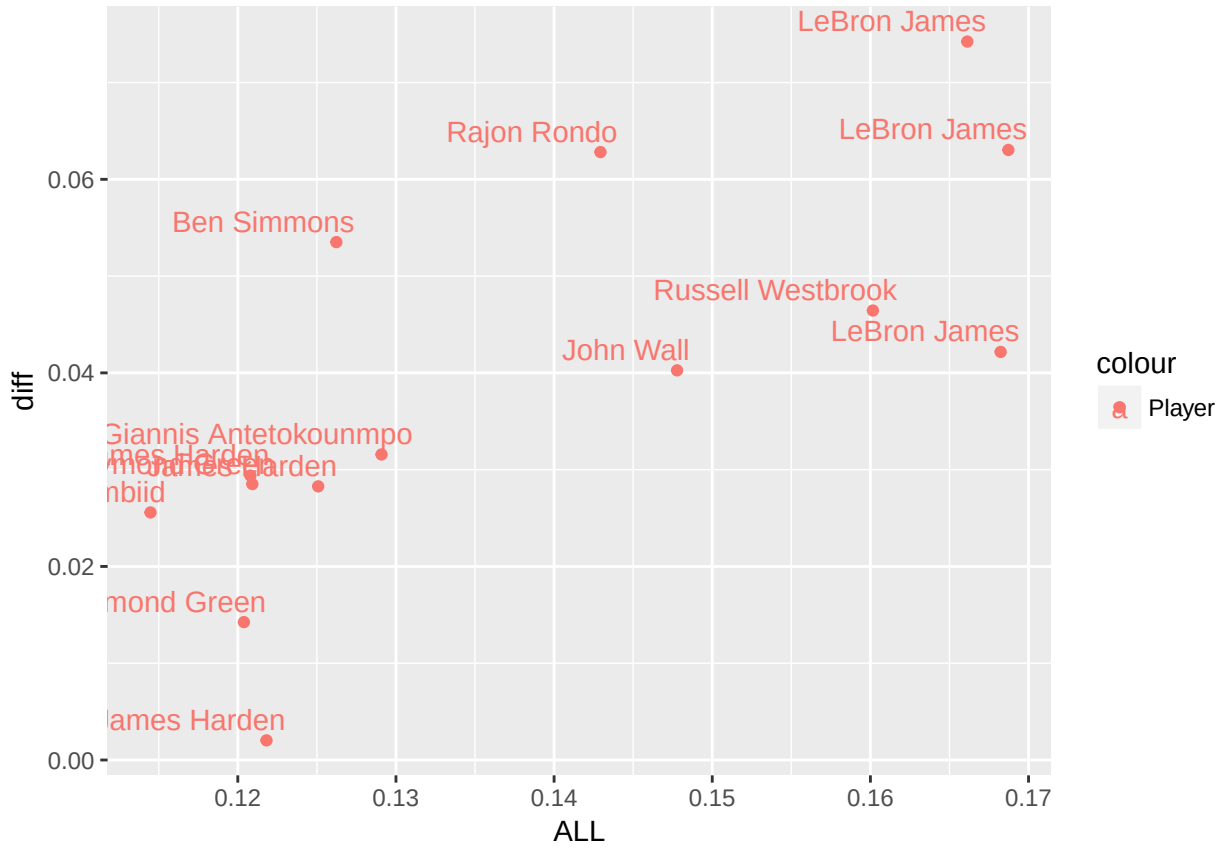
```
plot(x2$ALL, x2$diff )
```




```
ggplot(x2, aes(x= ALL, y= diff, colour="Player", label=Player))+
  geom_point() +
geom_text(aes(label=ifelse(ALL>0.14 | diff > 0.04,as.character(Player),'')),hjust=0.9,vjust=-0.5) +scal
  theme_fivethirtyeight()
```




```
ggplot(x2, aes(x= ALL, y= diff, colour="Player", label=Player))+
  geom_point() +
geom_text(aes(label=Player,hjust=0.9,vjust=-0.5))
```



Basic or advanced stats point to LeBron playing at a level we have never seen before - strengthing his case as THE greatest of all time. To avoid robbing Harden of the regular season MVP twice let's give that to him. But win or lose LeBron James deserves to at least win the Finals MVP.

If you have payed the slightest of attention to this year's playoffs, you know his numbers have been incredible - he leads the league in points, assits, minutes played and add to that he already has seven 40 point games (couple while facing elimination). But I want to compare his production from a slightly different angle - how much impact James has had on the series relative to everyone else - combined.

Through the first five games, James has gathered an incredible 18 percent of all the points scored, assists dished and rebounds collected by anyone in this series. If that stands, it will be 1.1 percentage points higher than the next highest over the past 46 years (since they started having a finals MVP in 1969). Here are the top 20, plus James: