FinalReport

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Introduction

Variable Selection

Our data comes from four different datasets. We used three of Riguang Wen's datasets from figshare.com – `players cv`, `players salary`, and `players stat`. We also used a dataset called `NBA RS 2020-1950 Stats` uploaded to zenodo.org by Pablo Gomez and Sandra Giral. From these datasets, we considered the following variables.

Variable	Description	Type	Source
Player	Name of player	Character	`players stat`
Age	Age of player	Numeric	`players stat`
G	Games played	Numeric	`players stat`
GS	Games started	Numeric	`players stat`
MP	Minutes played	Numeric	`players stat`
PER	Player efficiency rating	Numeric	`players stat`
PTS	Points	Numeric	`NBA RS 2020-1950 Stats`
X3PAr	3PA/FGA	Numeric	`players stat`
FTr	FTA/FGA	Numeric	`players stat`
TS	True shooting percentage	Numeric	`NBA RS 2020-1950 Stats`
ORB	Offensive rebounds	Numeric	`players stat`
DRB	Defensive rebounds	Numeric	`players stat`
TRB	Total rebounds	Numeric	`players stat`
AST	Assists	Numeric	`players stat`
STL	Steals	Numeric	`players stat`
BLK	Blocks	Numeric	`players stat`
TOV	Turnovers	Numeric	`players stat`
USG	Usage percentage	Numeric	`players stat`
ORtg	Offensive rating	Numeric	`players stat`
DRtg	Defensive rating	Numeric	`players stat`
OWS	Offensive win shares	Numeric	`players stat`
DWS	Defensive win shares	Numeric	`players stat`
WS	Win shares	Numeric	`players stat`
WS.48	Win shares per 48 minutes	Numeric	`players stat`
OBPM	Offensive box +/-	Numeric	`players stat`
DBPM	Defensive box +/-	Numeric	`players stat`
BPM	Box +/-	Numeric	`players stat`
VORP	Value over replacement player	Numeric	`players stat`
Pos	Position	Factor	`players salary`
Ht	Height in inches	Numeric	`players salary`
Wt	Weight in pounds	Numeric	`players salary`
PwrSix	Power Six College?	Indicator	`players cv`
International	International Player?	Indicator	`players cv`

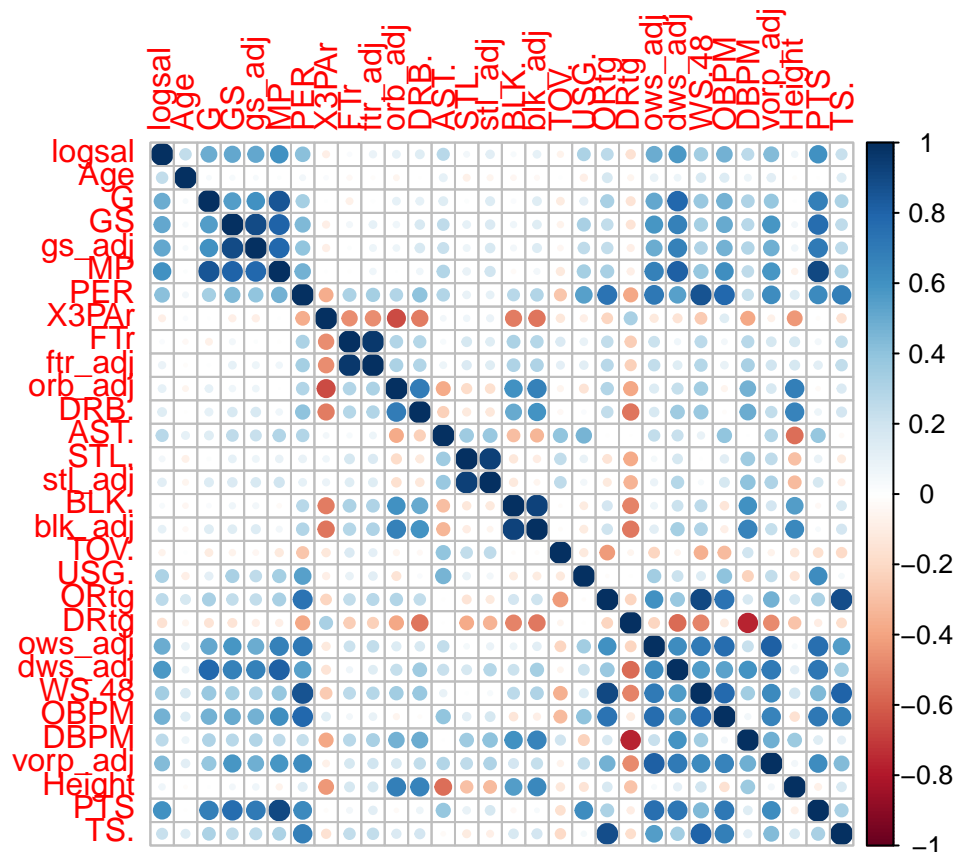| Variable	Description	Type	Source
Salary	Salary in dollars	Numeric	`players salary`

Exploratory Data Analysis

Immediately we can recognize that some variables are functions of others and therefore do not need to be considered. Specifically, `BPM = OBPM + DBPM`, so there is no need to include `BPM` in our model. Similarly, `WS = OWS + DWS` and `TRB = ORB + DRB`, so we can exclude `WS` and `TRB` from consideration if we include `OWS`, `DWS`, `ORB` and `DRB` in our model.

```r
data <- read.csv("data/PlayerData.csv")[,-1]
data_regressors <- data %>% mutate(logsal = log(SALARY)) %>%
  dplyr::select(logsal, Age, G, GS, gs_adj, MP, PER, X3PAr, FTr, ftr_adj, orb_adj, DRB., AST.,
                STL., stl_adj, BLK., blk_adj, TOV., USG., ORtg, DRtg, ows_adj, dws_adj, WS.48,
                OBPM, DBPM, vorp_adj, Pos, Height, PTS, TS., International, Conference)
attach(data_regressors)
Pos <- as.factor(Pos)
International <- as.factor(International)
Conference <- as.factor(Conference)

# Which variables did we transform and why?
```

Correlation Matrix

```r
corrplot(cor(data_regressors[sapply(data_regressors, is.numeric)]))
```

```
cor(PTS, MP)
```

```
## [1] 0.902671
```

```
cor(WS.48, PER)
```

```
## [1] 0.8635319
```

```
cor(DBPM,DRtg)
```

```
## [1] -0.7600841
```

```
cor(ORtg, TS.)
```

```
## [1] 0.8880973
# Which did we remove from here and why?
```

Stepwise Regression Models

```
null = lm(logsal ~ 1, data = data_regressors)
full = lm(logsal ~ ., data = data_regressors)
summary(full)
```

```
##
## Call:
## lm(formula = logsal ~ ., data = data_regressors)
##
## Residuals:
##      Min       1Q   Median       3Q      Max
## -2.89634 -0.45887  0.02604  0.54120  1.91738
##
## Coefficients:
##               Estimate Std. Error t value Pr(>|t|)
## (Intercept)  7.4008123  6.3254510   1.170  0.24280
## Age          0.0646425  0.0107122   6.034 4.10e-09 ***
## G           -0.0178459  0.0059294  -3.010  0.00281 **
## GS          -0.0021455  0.0042821  -0.501  0.61667
## gs_adj       0.0396328  0.0730560   0.542  0.58782
## MP           0.0005660  0.0003375   1.677  0.09449 .
## PER         -0.0117003  0.0758247  -0.154  0.87746
## X3PAr        0.5024624  0.5770514   0.871  0.38450
## FTr          1.7980956  1.3719994   1.311  0.19087
## ftr_adj     -2.2892221  1.4853599  -1.541  0.12418
## orb_adj      0.2295850  0.1674220   1.371  0.17117
## DRB.        -0.0252907  0.0188371  -1.343  0.18028
## AST.         0.0110053  0.0144804   0.760  0.44777
## STL.        -0.2341728  0.2063054  -1.135  0.25713
## stl_adj      0.5876361  0.5423143   1.084  0.27931
## BLK.        -0.0029507  0.1022943  -0.029  0.97701
## blk_adj     -0.3231552  0.3078111  -1.050  0.29452
## TOV.         0.0081408  0.0257820   0.316  0.75238
## USG.         0.0672225  0.0420846   1.597  0.11111
## ORtg         0.0369474  0.0239225   1.544  0.12339
## DRtg         0.0135157  0.0505360   0.267  0.78928
## ows_adj      1.4202772  0.4624449   3.071  0.00230 **
```

3

```
## dws_adj          0.9720928  0.3929347   2.474  0.01384 *
## WS.48            -6.3523003  5.3913932  -1.178  0.23951
## OBPM             0.1170824  0.1007643   1.162  0.24606
## DBPM             0.2177996  0.0792673   2.748  0.00632 **
## vorp_adj         -0.9934099  0.2133267  -4.657 4.59e-06 ***
## PosC-F           0.3415669  0.3389145   1.008  0.31424
## PosF            -0.1952697  0.1972747  -0.990  0.32295
## PosF-C          -0.0142731  0.2244035  -0.064  0.94932
## PosF-G          -0.3848567  0.3062600  -1.257  0.20973
## PosG            -0.6576945  0.3107234  -2.117  0.03500 *
## PosG-F          -0.5170538  0.2817117  -1.835  0.06730 .
## Height           0.0114742  0.0311866   0.368  0.71316
## PTS             -0.0001013  0.0005238  -0.193  0.84671
## TS.             -2.1923651  3.0757210  -0.713  0.47645
## InternationalYes -0.0243684  0.1124619  -0.217  0.82858
## ConferenceMulti  -0.6762959  0.1585817  -4.265 2.59e-05 ***
## ConferenceWest   -0.0734721  0.0990529  -0.742  0.45874
## ---
## Signif. codes:  0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1
##
## Residual standard error: 0.8284 on 346 degrees of freedom
## Multiple R-squared:  0.5732, Adjusted R-squared:  0.5263
## F-statistic: 12.23 on 38 and 346 DF,  p-value: < 2.2e-16
```

```r
bic = log(nrow(data_regressors))
stepbic_model <- stepAIC(object = null, scope = list(lower = null, upper = full),
direction = "both", k = bic)
```

```
## Start:  AIC=147.73
## logsal ~ 1
##
##                 Df Sum of Sq    RSS      AIC
## + MP             1   205.936 350.46  -24.281
## + PTS            1   204.939 351.46  -23.186
## + dws_adj        1   182.788 373.61    0.344
## + GS             1   150.239 406.16   32.505
## + gs_adj         1   148.593 407.80   34.062
## + ows_adj        1   135.532 420.87   46.199
## + G              1   134.283 422.11   47.339
## + OBPM           1   126.131 430.27   54.704
## + vorp_adj       1   103.261 453.14   74.643
## + PER            1    96.356 460.04   80.465
## + WS.48          1    65.572 490.83  105.402
## + USG.           1    55.407 500.99  113.294
## + AST.           1    43.172 513.23  122.584
## + DBPM           1    40.236 516.16  124.779
## + ORtg           1    38.938 517.46  125.746
## + Age            1    33.751 522.65  129.587
## + TS.            1    28.177 528.22  133.671
## + Conference     2    33.141 523.26  135.989
## + DRtg           1    13.737 542.66  144.054
## + DRB.           1    10.839 545.56  146.105
## + stl_adj        1     8.592 547.81  147.687
## <none>                       556.40  147.726
## + orb_adj        1     5.968 550.43  149.527
```

4

```
## + blk_adj        1      5.623 550.77 149.768
## + ftr_adj        1      4.410 551.99 150.615
## + X3PAr          1      3.600 552.80 151.180
## + International  1      2.977 553.42 151.613
## + Height         1      2.359 554.04 152.043
## + TOV.           1      2.173 554.22 152.172
## + STL.           1      1.585 554.81 152.581
## + BLK.           1      0.669 555.73 153.216
## + FTr            1      0.451 555.95 153.366
## + Pos            6     15.293 541.10 172.715
##
## Step:  AIC=-24.28
## logsal ~ MP
##
##                 Df Sum of Sq    RSS     AIC
## + Age            1    31.599 318.86 -54.706
## + PER            1    11.787 338.67 -31.498
## + PTS            1    10.016 340.45 -29.491
## + dws_adj        1     9.805 340.66 -29.253
## + OBPM           1     8.947 341.51 -28.284
## + DBPM           1     7.922 342.54 -27.130
## + USG.           1     7.500 342.96 -26.655
## + WS.48          1     7.398 343.06 -26.541
## + ows_adj        1     7.201 343.26 -26.320
## + DRtg           1     6.013 344.45 -24.990
## + Height         1     5.945 344.52 -24.914
## + orb_adj        1     5.930 344.53 -24.898
## + AST.           1     5.664 344.80 -24.600
## <none>                        350.46 -24.281
## + DRB.           1     5.362 345.10 -24.263
## + Conference     2     9.952 340.51 -23.465
## + vorp_adj       1     4.560 345.90 -23.370
## + X3PAr          1     3.805 346.66 -22.530
## + ORtg           1     2.919 347.54 -21.547
## + blk_adj        1     2.426 348.04 -21.001
## + gs_adj         1     2.122 348.34 -20.666
## + International  1     1.745 348.72 -20.249
## + G              1     1.657 348.81 -20.151
## + BLK.           1     1.508 348.95 -19.987
## + ftr_adj        1     1.335 349.13 -19.797
## + GS             1     1.217 349.24 -19.666
## + TS.            1     0.672 349.79 -19.066
## + FTr            1     0.618 349.84 -19.007
## + TOV.           1     0.051 350.41 -18.383
## + stl_adj        1     0.037 350.42 -18.368
## + STL.           1     0.014 350.45 -18.343
## + Pos            6    13.359 337.10  -3.524
## - MP             1   205.936 556.40 147.726
##
## Step:  AIC=-54.71
## logsal ~ MP + Age
##
##                 Df Sum of Sq    RSS     AIC
## + Conference     2    16.682 302.18 -63.488
```

5

```
## + PTS            1     11.385 307.48 -62.751
## + USG.            1     10.980 307.88 -62.243
## + PER             1      9.861 309.00 -60.847
## + orb_adj         1      7.474 311.39 -57.884
## + dws_adj         1      6.396 312.47 -56.554
## + Height          1      6.376 312.49 -56.529
## + DBPM            1      5.690 313.17 -55.685
## + DRB.            1      5.453 313.41 -55.394
## <none>                         318.86 -54.706
## + DRtg            1      4.605 314.26 -54.353
## + X3PAr           1      4.420 314.44 -54.127
## + OBPM            1      4.154 314.71 -53.801
## + ows_adj         1      4.079 314.78 -53.709
## + WS.48           1      3.223 315.64 -52.663
## + blk_adj         1      3.153 315.71 -52.579
## + AST.            1      3.140 315.72 -52.563
## + G               1      2.245 316.62 -51.473
## + BLK.            1      2.202 316.66 -51.421
## + vorp_adj        1      1.725 317.14 -50.841
## + gs_adj          1      1.590 317.27 -50.677
## + ftr_adj         1      1.589 317.27 -50.676
## + International   1      1.579 317.28 -50.665
## + FTr             1      1.021 317.84 -49.988
## + GS              1      0.709 318.15 -49.609
## + ORtg            1      0.486 318.38 -49.340
## + stl_adj         1      0.273 318.59 -49.083
## + STL.            1      0.113 318.75 -48.889
## + TOV.            1      0.028 318.84 -48.786
## + TS.             1      0.000 318.86 -48.753
## + Pos             6     12.036 306.83 -33.800
## - Age             1     31.599 350.46 -24.281
## - MP              1    203.784 522.65 129.587
##
## Step:  AIC=-63.49
## logsal ~ MP + Age + Conference
##
##                Df Sum of Sq    RSS      AIC
## + USG.            1     11.271 290.91 -72.170
## + PTS             1     11.175 291.01 -72.043
## + PER             1     10.001 292.18 -70.493
## + orb_adj         1      6.275 295.91 -65.614
## + OBPM            1      4.879 297.30 -63.801
## <none>                         302.18 -63.488
## + Height          1      4.391 297.79 -63.170
## + dws_adj         1      4.127 298.05 -62.829
## + X3PAr           1      4.033 298.15 -62.707
## + AST.            1      3.904 298.28 -62.541
## + DRB.            1      3.730 298.45 -62.316
## + ows_adj         1      3.682 298.50 -62.255
## + DBPM            1      3.300 298.88 -61.762
## + WS.48           1      2.974 299.21 -61.342
## + DRtg            1      2.501 299.68 -60.734
## + gs_adj          1      2.470 299.71 -60.694
## + G               1      2.230 299.95 -60.387
```

6

```
## + ftr_adj       1     2.077 300.10 -60.190
## + blk_adj       1     1.752 300.43 -59.773
## + FTr           1     1.465 300.72 -59.406
## + BLK.          1     1.097 301.08 -58.935
## + GS            1     0.904 301.28 -58.689
## + vorp_adj      1     0.805 301.38 -58.561
## + ORtg          1     0.703 301.48 -58.431
## + International 1     0.541 301.64 -58.224
## + stl_adj       1     0.480 301.70 -58.147
## + STL.          1     0.206 301.97 -57.798
## + TOV.          1     0.070 302.11 -57.624
## + TS.           1     0.054 302.13 -57.603
## - Conference    2    16.682 318.86 -54.706
## + Pos           6     9.929 292.25 -40.631
## - Age           1    38.329 340.51 -23.465
## - MP            1   176.059 478.24 107.307
##
## Step:  AIC=-72.17
## logsal ~ MP + Age + Conference + USG.
##
##                 Df Sum of Sq    RSS      AIC
## + DBPM          1     9.830 281.08 -79.451
## + orb_adj       1     9.488 281.42 -78.982
## + Height        1     6.623 284.29 -75.083
## + dws_adj       1     5.655 285.25 -73.775
## <none>                       290.91 -72.170
## + DRB.          1     3.680 287.23 -71.118
## + blk_adj       1     3.270 287.64 -70.569
## + PER           1     3.148 287.76 -70.405
## + X3PAr         1     2.896 288.01 -70.068
## + gs_adj        1     2.744 288.17 -69.865
## + DRtg          1     2.668 288.24 -69.763
## + WS.48         1     2.627 288.28 -69.708
## + BLK.          1     1.972 288.94 -68.835
## + ows_adj       1     1.799 289.11 -68.605
## + OBPM          1     1.647 289.26 -68.402
## + ORtg          1     1.586 289.32 -68.321
## + PTS           1     1.253 289.66 -67.879
## + ftr_adj       1     1.171 289.74 -67.770
## + FTr           1     0.760 290.15 -67.224
## + International 1     0.597 290.31 -67.007
## + stl_adj       1     0.538 290.37 -66.929
## + vorp_adj      1     0.412 290.50 -66.762
## + AST.          1     0.395 290.51 -66.740
## + GS            1     0.381 290.53 -66.721
## + TOV.          1     0.292 290.62 -66.603
## + TS.           1     0.183 290.73 -66.459
## + G             1     0.085 290.82 -66.329
## + STL.          1     0.065 290.84 -66.302
## - USG.          1    11.271 302.18 -63.488
## - Conference    2    16.974 307.88 -62.243
## + Pos           6    11.647 279.26 -52.181
## - Age           1    42.217 333.13 -25.951
## - MP            1   129.044 419.95  63.223
```

```
## 
## Step:  AIC=-79.45
## logsal ~ MP + Age + Conference + USG. + DBPM
## 
##                 Df Sum of Sq    RSS     AIC
## <none>                        281.08 -79.451
## + orb_adj        1     3.238 277.84 -77.958
## + Height         1     2.374 278.71 -76.763
## + DRtg           1     2.280 278.80 -76.632
## + OBPM           1     2.055 279.02 -76.323
## + ORtg           1     1.287 279.79 -75.264
## + gs_adj         1     1.262 279.82 -75.230
## + STL.           1     1.247 279.83 -75.210
## + ows_adj        1     0.880 280.20 -74.705
## + vorp_adj       1     0.852 280.23 -74.666
## + PTS            1     0.819 280.26 -74.621
## + BLK.           1     0.620 280.46 -74.347
## + WS.48          1     0.518 280.56 -74.207
## + International  1     0.514 280.57 -74.202
## + PER            1     0.490 280.59 -74.169
## + stl_adj        1     0.398 280.68 -74.042
## - Conference     2    13.017 294.10 -73.928
## + G              1     0.247 280.83 -73.835
## + blk_adj        1     0.182 280.90 -73.747
## + AST.           1     0.174 280.91 -73.735
## + TS.            1     0.151 280.93 -73.705
## + DRB.           1     0.106 280.97 -73.642
## + X3PAr          1     0.082 281.00 -73.609
## + FTr            1     0.071 281.01 -73.594
## + dws_adj        1     0.047 281.03 -73.562
## + TOV.           1     0.025 281.05 -73.531
## + ftr_adj        1     0.022 281.06 -73.527
## + GS             1     0.008 281.07 -73.508
## - DBPM           1     9.830 290.91 -72.170
## - USG.           1    17.801 298.88 -61.762
## + Pos            6     5.519 275.56 -51.366
## - Age            1    39.226 320.31 -35.108
## - MP             1    93.538 374.62  25.195
```

```r
stepaic_model <- stepAIC(object = null, scope = list(lower = null, upper = full),
direction = "both", k = 2)
```

```
## Start:  AIC=143.77
## logsal ~ 1
## 
##             Df Sum of Sq    RSS     AIC
## + MP         1   205.936 350.46 -32.187
## + PTS        1   204.939 351.46 -31.093
## + dws_adj    1   182.788 373.61  -7.562
## + GS         1   150.239 406.16  24.598
## + gs_adj     1   148.593 407.80  26.155
## + ows_adj    1   135.532 420.87  38.293
## + G          1   134.283 422.11  39.433
## + OBPM       1   126.131 430.27  46.797
## + vorp_adj   1   103.261 453.14  66.736
```

```
## + PER             1    96.356 460.04   72.559
## + WS.48           1    65.572 490.83   97.496
## + USG.            1    55.407 500.99  105.388
## + AST.            1    43.172 513.23  114.677
## + DBPM            1    40.236 516.16  116.873
## + ORtg            1    38.938 517.46  117.840
## + Age             1    33.751 522.65  121.680
## + Conference      2    33.141 523.26  124.130
## + TS.             1    28.177 528.22  125.765
## + DRtg            1    13.737 542.66  136.148
## + DRB.            1    10.839 545.56  138.198
## + stl_adj         1     8.592 547.81  139.781
## + orb_adj         1     5.968 550.43  141.621
## + blk_adj         1     5.623 550.77  141.862
## + ftr_adj         1     4.410 551.99  142.709
## + X3PAr           1     3.600 552.80  143.273
## + International   1     2.977 553.42  143.707
## <none>                        556.40  143.772
## + Height          1     2.359 554.04  144.136
## + TOV.            1     2.173 554.22  144.266
## + STL.            1     1.585 554.81  144.674
## + Pos             6    15.293 541.10  145.042
## + BLK.            1     0.669 555.73  145.309
## + FTr             1     0.451 555.95  145.460
##
## Step:  AIC=-32.19
## logsal ~ MP
##
##                  Df Sum of Sq    RSS      AIC
## + Age             1    31.599 318.86  -66.566
## + PER             1    11.787 338.67  -43.358
## + PTS             1    10.016 340.45  -41.350
## + dws_adj         1     9.805 340.66  -41.112
## + OBPM            1     8.947 341.51  -40.144
## + Conference      2     9.952 340.51  -39.278
## + DBPM            1     7.922 342.54  -38.990
## + USG.            1     7.500 342.96  -38.515
## + WS.48           1     7.398 343.06  -38.401
## + ows_adj         1     7.201 343.26  -38.180
## + DRtg            1     6.013 344.45  -36.850
## + Height          1     5.945 344.52  -36.773
## + orb_adj         1     5.930 344.53  -36.758
## + AST.            1     5.664 344.80  -36.460
## + DRB.            1     5.362 345.10  -36.123
## + vorp_adj        1     4.560 345.90  -35.230
## + Pos             6    13.359 337.10  -35.150
## + X3PAr           1     3.805 346.66  -34.390
## + ORtg            1     2.919 347.54  -33.407
## + blk_adj         1     2.426 348.04  -32.861
## + gs_adj          1     2.122 348.34  -32.525
## <none>                        350.46  -32.187
## + International   1     1.745 348.72  -32.109
## + G               1     1.657 348.81  -32.011
## + BLK.            1     1.508 348.95  -31.847
```

```
## + ftr_adj       1     1.335 349.13 -31.657
## + GS            1     1.217 349.24 -31.526
## + TS.           1     0.672 349.79 -30.926
## + FTr           1     0.618 349.84 -30.867
## + TOV.          1     0.051 350.41 -30.243
## + stl_adj       1     0.037 350.42 -30.228
## + STL.          1     0.014 350.45 -30.202
## - MP            1   205.936 556.40 143.772
##
## Step:  AIC=-66.57
## logsal ~ MP + Age
##
##                Df Sum of Sq    RSS     AIC
## + Conference    2    16.682 302.18 -83.254
## + PTS           1    11.385 307.48 -78.564
## + USG.          1    10.980 307.88 -78.056
## + PER           1     9.861 309.00 -76.660
## + orb_adj       1     7.474 311.39 -73.697
## + dws_adj       1     6.396 312.47 -72.367
## + Height        1     6.376 312.49 -72.342
## + DBPM          1     5.690 313.17 -71.498
## + DRB.          1     5.453 313.41 -71.207
## + DRtg          1     4.605 314.26 -70.166
## + X3PAr         1     4.420 314.44 -69.940
## + OBPM          1     4.154 314.71 -69.614
## + ows_adj       1     4.079 314.78 -69.522
## + Pos           6    12.036 306.83 -69.379
## + WS.48         1     3.223 315.64 -68.476
## + blk_adj       1     3.153 315.71 -68.392
## + AST.          1     3.140 315.72 -68.376
## + G             1     2.245 316.62 -67.286
## + BLK.          1     2.202 316.66 -67.234
## + vorp_adj      1     1.725 317.14 -66.654
## <none>                      318.86 -66.566
## + gs_adj        1     1.590 317.27 -66.490
## + ftr_adj       1     1.589 317.27 -66.489
## + International 1     1.579 317.28 -66.478
## + FTr           1     1.021 317.84 -65.801
## + GS            1     0.709 318.15 -65.422
## + ORtg          1     0.486 318.38 -65.153
## + stl_adj       1     0.273 318.59 -64.896
## + STL.          1     0.113 318.75 -64.702
## + TOV.          1     0.028 318.84 -64.599
## + TS.           1     0.000 318.86 -64.566
## - Age           1    31.599 350.46 -32.187
## - MP            1   203.784 522.65 121.680
##
## Step:  AIC=-83.25
## logsal ~ MP + Age + Conference
##
##                Df Sum of Sq    RSS     AIC
## + USG.          1    11.271 290.91 -95.889
## + PTS           1    11.175 291.01 -95.762
## + PER           1    10.001 292.18 -94.212
```

```
## + orb_adj        1      6.275 295.91 -89.334
## + OBPM           1      4.879 297.30 -87.521
## + Height         1      4.391 297.79 -86.889
## + dws_adj        1      4.127 298.05 -86.549
## + X3PAr          1      4.033 298.15 -86.427
## + AST.           1      3.904 298.28 -86.261
## + DRB.           1      3.730 298.45 -86.036
## + ows_adj        1      3.682 298.50 -85.974
## + DBPM           1      3.300 298.88 -85.482
## + WS.48          1      2.974 299.21 -85.061
## + DRtg           1      2.501 299.68 -84.454
## + gs_adj         1      2.470 299.71 -84.413
## + Pos            6      9.929 292.25 -84.117
## + G              1      2.230 299.95 -84.106
## + ftr_adj        1      2.077 300.10 -83.909
## + blk_adj        1      1.752 300.43 -83.493
## <none>                        302.18 -83.254
## + FTr            1      1.465 300.72 -83.125
## + BLK.           1      1.097 301.08 -82.655
## + GS             1      0.904 301.28 -82.408
## + vorp_adj       1      0.805 301.38 -82.281
## + ORtg           1      0.703 301.48 -82.151
## + International  1      0.541 301.64 -81.944
## + stl_adj        1      0.480 301.70 -81.867
## + STL.           1      0.206 301.97 -81.517
## + TOV.           1      0.070 302.11 -81.343
## + TS.            1      0.054 302.13 -81.323
## - Conference     2     16.682 318.86 -66.566
## - Age            1     38.329 340.51 -39.278
## - MP             1    176.059 478.24  91.494
##
## Step:  AIC=-95.89
## logsal ~ MP + Age + Conference + USG.
##
##                 Df Sum of Sq    RSS      AIC
## + DBPM           1      9.830 281.08 -107.123
## + orb_adj        1      9.488 281.42 -106.655
## + Height         1      6.623 284.29 -102.755
## + dws_adj        1      5.655 285.25 -101.447
## + Pos            6     11.647 279.26  -99.620
## + DRB.           1      3.680 287.23  -98.790
## + blk_adj        1      3.270 287.64  -98.242
## + PER            1      3.148 287.76  -98.078
## + X3PAr          1      2.896 288.01  -97.740
## + gs_adj         1      2.744 288.17  -97.538
## + DRtg           1      2.668 288.24  -97.436
## + WS.48          1      2.627 288.28  -97.381
## + BLK.           1      1.972 288.94  -96.508
## + ows_adj        1      1.799 289.11  -96.277
## + OBPM           1      1.647 289.26  -96.075
## + ORtg           1      1.586 289.32  -95.994
## <none>                        290.91  -95.889
## + PTS            1      1.253 289.66  -95.551
## + ftr_adj        1      1.171 289.74  -95.442
```

```
## + FTr             1      0.760 290.15  -94.897
## + International    1      0.597 290.31  -94.680
## + stl_adj          1      0.538 290.37  -94.602
## + vorp_adj         1      0.412 290.50  -94.435
## + AST.             1      0.395 290.51  -94.413
## + GS               1      0.381 290.53  -94.394
## + TOV.             1      0.292 290.62  -94.276
## + TS.              1      0.183 290.73  -94.131
## + G                1      0.085 290.82  -94.002
## + STL.             1      0.065 290.84  -93.975
## - USG.             1     11.271 302.18  -83.254
## - Conference       2     16.974 307.88  -78.056
## - Age              1     42.217 333.13  -45.717
## - MP               1    129.044 419.95   43.457
##
## Step:  AIC=-107.12
## logsal ~ MP + Age + Conference + USG. + DBPM
##
##                  Df Sum of Sq    RSS      AIC
## + orb_adj         1      3.238 277.84 -109.584
## + Height          1      2.374 278.71 -108.389
## + DRtg            1      2.280 278.80 -108.258
## + OBPM            1      2.055 279.02 -107.949
## <none>                         281.08 -107.123
## + ORtg            1      1.287 279.79 -106.890
## + gs_adj          1      1.262 279.82 -106.855
## + STL.            1      1.247 279.83 -106.835
## + ows_adj         1      0.880 280.20 -106.331
## + vorp_adj        1      0.852 280.23 -106.292
## + PTS             1      0.819 280.26 -106.247
## + BLK.            1      0.620 280.46 -105.973
## + WS.48           1      0.518 280.56 -105.833
## + International   1      0.514 280.57 -105.828
## + PER             1      0.490 280.59 -105.795
## + stl_adj         1      0.398 280.68 -105.668
## + G               1      0.247 280.83 -105.461
## + blk_adj         1      0.182 280.90 -105.373
## + AST.            1      0.174 280.91 -105.361
## + TS.             1      0.151 280.93 -105.330
## + DRB.            1      0.106 280.97 -105.268
## + X3PAr           1      0.082 281.00 -105.235
## + FTr             1      0.071 281.01 -105.220
## + dws_adj         1      0.047 281.03 -105.187
## + TOV.            1      0.025 281.05 -105.157
## + ftr_adj         1      0.022 281.06 -105.153
## + GS              1      0.008 281.07 -105.134
## + Pos             6      5.519 275.56 -102.758
## - DBPM            1      9.830 290.91  -95.889
## - Conference      2     13.017 294.10  -93.695
## - USG.            1     17.801 298.88  -85.482
## - Age             1     39.226 320.31  -58.828
## - MP              1     93.538 374.62    1.475
##
## Step:  AIC=-109.58
```

```
## logsal ~ MP + Age + Conference + USG. + DBPM + orb_adj
##
##                    Df Sum of Sq    RSS      AIC
## + BLK.             1     2.920 274.92 -111.652
## + blk_adj          1     2.638 275.20 -111.257
## + DRtg             1     2.508 275.33 -111.075
## + OBPM             1     2.066 275.78 -110.458
## + AST.             1     1.870 275.97 -110.184
## <none>                         277.84 -109.584
## + gs_adj           1     1.107 276.73 -109.121
## + DRB.             1     0.945 276.90 -108.896
## + X3PAr            1     0.915 276.93 -108.854
## + vorp_adj         1     0.880 276.96 -108.806
## + PTS              1     0.612 277.23 -108.433
## + G                1     0.554 277.29 -108.352
## + FTr              1     0.371 277.47 -108.098
## + ows_adj          1     0.350 277.49 -108.069
## + ORtg             1     0.328 277.51 -108.038
## + Height           1     0.316 277.53 -108.022
## + ftr_adj          1     0.259 277.58 -107.943
## + International    1     0.229 277.61 -107.901
## + STL.             1     0.082 277.76 -107.697
## + stl_adj          1     0.057 277.78 -107.663
## + TOV.             1     0.051 277.79 -107.656
## + WS.48            1     0.029 277.81 -107.624
## + TS.              1     0.004 277.84 -107.590
## + GS               1     0.001 277.84 -107.586
## + PER              1     0.000 277.84 -107.585
## + dws_adj          1     0.000 277.84 -107.585
## - orb_adj          1     3.238 281.08 -107.123
## - DBPM             1     3.580 281.42 -106.655
## + Pos              6     2.381 275.46 -100.898
## - Conference       2    13.274 291.12  -95.616
## - USG.             1    17.635 295.48  -87.892
## - Age              1    41.275 319.12  -58.260
## - MP               1    96.561 374.40    3.254
##
## Step:  AIC=-111.65
## logsal ~ MP + Age + Conference + USG. + DBPM + orb_adj + BLK.
##
##                    Df Sum of Sq    RSS      AIC
## + DRtg             1     2.856 272.07 -113.672
## + OBPM             1     1.563 273.36 -111.847
## <none>                         274.92 -111.652
## + STL.             1     1.238 273.68 -111.389
## + gs_adj           1     1.170 273.75 -111.294
## + vorp_adj         1     1.138 273.78 -111.249
## + Height           1     1.010 273.91 -111.069
## + DRB.             1     0.969 273.95 -111.011
## + AST.             1     0.786 274.14 -110.754
## + PTS              1     0.692 274.23 -110.622
## + G                1     0.604 274.32 -110.498
## + ORtg             1     0.603 274.32 -110.498
## + X3PAr            1     0.551 274.37 -110.424
```

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```
## + ows_adj         1      0.366 274.56 -110.165
## + International   1      0.360 274.56 -110.156
## + stl_adj         1      0.331 274.59 -110.115
## + FTr             1      0.228 274.69 -109.971
## + ftr_adj         1      0.195 274.73 -109.925
## + TS.             1      0.155 274.77 -109.869
## + blk_adj         1      0.099 274.82 -109.790
## + PER             1      0.078 274.84 -109.761
## + WS.48           1      0.067 274.85 -109.746
## + dws_adj         1      0.051 274.87 -109.724
## + GS              1      0.003 274.92 -109.656
## + TOV.            1      0.001 274.92 -109.652
## - BLK.            1      2.920 277.84 -109.584
## - orb_adj         1      5.538 280.46 -105.973
## + Pos             6      4.241 270.68 -105.637
## - DBPM            1      6.231 281.15 -105.024
## - Conference      2     13.578 288.50  -97.091
## - USG.            1     19.547 294.47  -87.208
## - Age             1     39.589 314.51  -61.857
## - MP              1     82.811 357.73  -12.281
##
## Step:  AIC=-113.67
## logsal ~ MP + Age + Conference + USG. + DBPM + orb_adj + BLK. +
##      DRtg
##
##                  Df Sum of Sq    RSS      AIC
## + OBPM            1      2.536 269.53 -115.278
## + ORtg            1      1.800 270.27 -114.228
## + WS.48           1      1.591 270.47 -113.931
## <none>                        272.07 -113.672
## + dws_adj         1      1.397 270.67 -113.654
## + Height          1      0.993 271.07 -113.080
## + ows_adj         1      0.921 271.14 -112.978
## + PER             1      0.863 271.20 -112.896
## + X3PAr           1      0.845 271.22 -112.870
## + STL.            1      0.808 271.26 -112.817
## + TS.             1      0.773 271.29 -112.768
## + PTS             1      0.769 271.30 -112.762
## + International   1      0.611 271.45 -112.538
## + gs_adj          1      0.611 271.45 -112.538
## + ftr_adj         1      0.462 271.60 -112.327
## + AST.            1      0.394 271.67 -112.230
## + vorp_adj        1      0.392 271.67 -112.227
## + DRB.            1      0.321 271.74 -112.127
## + FTr             1      0.303 271.76 -112.102
## + G               1      0.290 271.78 -112.083
## + stl_adj         1      0.263 271.80 -112.044
## + TOV.            1      0.134 271.93 -111.862
## + blk_adj         1      0.116 271.95 -111.837
## + GS              1      0.000 272.06 -111.673
## - DRtg            1      2.856 274.92 -111.652
## - BLK.            1      3.268 275.33 -111.075
## + Pos             6      4.732 267.33 -108.427
## - orb_adj         1      6.021 278.09 -107.245
```

```
## - DBPM           1      8.677 280.74 -103.585
## - Conference     2     14.327 286.39  -97.913
## - USG.           1     22.348 294.41  -85.280
## - Age            1     40.455 312.52  -62.301
## - MP             1     64.976 337.04  -33.219
##
## Step:  AIC=-115.28
## logsal ~ MP + Age + Conference + USG. + DBPM + orb_adj + BLK. +
##     DRtg + OBPM
##
##                 Df Sum of Sq    RSS      AIC
## + vorp_adj       1      2.994 266.54 -117.579
## + Height         1      1.421 268.11 -115.313
## <none>                        269.53 -115.278
## + dws_adj        1      1.208 268.32 -115.008
## + STL.           1      1.007 268.52 -114.719
## + ftr_adj        1      0.727 268.80 -114.319
## + PER            1      0.711 268.82 -114.296
## + International  1      0.682 268.85 -114.254
## + gs_adj         1      0.584 268.94 -114.113
## + FTr            1      0.495 269.03 -113.986
## + stl_adj        1      0.440 269.09 -113.908
## + X3PAr          1      0.327 269.20 -113.746
## - OBPM           1      2.536 272.06 -113.672
## + WS.48          1      0.213 269.32 -113.582
## + TS.            1      0.193 269.34 -113.554
## + G              1      0.185 269.35 -113.542
## - BLK.           1      2.660 272.19 -113.497
## + DRB.           1      0.126 269.40 -113.458
## + AST.           1      0.097 269.43 -113.416
## + blk_adj        1      0.058 269.47 -113.361
## + PTS            1      0.050 269.48 -113.350
## + TOV.           1      0.023 269.51 -113.311
## + GS             1      0.003 269.53 -113.283
## + ORtg           1      0.001 269.53 -113.280
## + ows_adj        1      0.001 269.53 -113.280
## - DRtg           1      3.829 273.36 -111.847
## + Pos            6      5.488 264.04 -111.199
## - orb_adj        1      5.737 275.27 -109.169
## - DBPM           1      9.708 279.24 -103.655
## - Conference     2     14.888 284.42  -98.579
## - USG.           1     18.840 288.37  -91.266
## - MP             1     35.120 304.65  -70.122
## - Age            1     35.311 304.84  -69.880
##
## Step:  AIC=-117.58
## logsal ~ MP + Age + Conference + USG. + DBPM + orb_adj + BLK. +
##     DRtg + OBPM + vorp_adj
##
##                 Df Sum of Sq    RSS      AIC
## + G              1      1.996 264.54 -118.473
## + ows_adj        1      1.837 264.70 -118.242
## + dws_adj        1      1.428 265.11 -117.646
## + Height         1      1.409 265.13 -117.620
```

```
## <none>                            266.54 -117.579
## + PER             1     0.984 265.55 -117.003
## + STL.            1     0.915 265.62 -116.902
## + ftr_adj         1     0.727 265.81 -116.630
## + gs_adj          1     0.594 265.94 -116.437
## + International   1     0.590 265.94 -116.432
## + WS.48           1     0.541 265.99 -116.361
## + X3PAr           1     0.464 266.07 -116.249
## + stl_adj         1     0.408 266.13 -116.168
## - DRtg            1     2.398 268.93 -116.131
## + TS.             1     0.380 266.15 -116.128
## + FTr             1     0.378 266.16 -116.125
## + PTS             1     0.356 266.18 -116.093
## + GS              1     0.248 266.29 -115.937
## + AST.            1     0.166 266.37 -115.819
## + DRB.            1     0.148 266.39 -115.792
## + TOV.            1     0.141 266.39 -115.783
## + ORtg            1     0.109 266.43 -115.736
## - BLK.            1     2.685 269.22 -115.720
## + blk_adj         1     0.092 266.44 -115.712
## - vorp_adj        1     2.994 269.53 -115.278
## + Pos             6     5.914 260.62 -114.218
## - OBPM            1     5.138 271.67 -112.227
## - orb_adj         1     5.774 272.31 -111.327
## - DBPM            1    11.498 278.03 -103.319
## - Conference      2    15.545 282.08  -99.755
## - USG.            1    19.472 286.01  -92.432
## - Age             1    36.241 302.78  -70.495
## - MP              1    37.906 304.44  -68.384
##
## Step:  AIC=-118.47
## logsal ~ MP + Age + Conference + USG. + DBPM + orb_adj + BLK. +
##     DRtg + OBPM + vorp_adj + G
##
##                   Df Sum of Sq    RSS      AIC
## + dws_adj          1     3.735 260.80 -121.947
## + ows_adj          1     2.477 262.06 -120.095
## - DRtg             1     1.210 265.75 -118.716
## + PER              1     1.523 263.02 -118.695
## <none>                          264.54 -118.473
## + STL.             1     1.347 263.19 -118.438
## + Height           1     1.238 263.30 -118.279
## + ftr_adj          1     1.008 263.53 -117.942
## + X3PAr            1     0.808 263.73 -117.651
## - G                1     1.996 266.54 -117.579
## + FTr              1     0.709 263.83 -117.506
## + International    1     0.663 263.88 -117.439
## + WS.48            1     0.547 263.99 -117.269
## + stl_adj          1     0.457 264.08 -117.138
## + TS.              1     0.314 264.23 -116.930
## + DRB.             1     0.235 264.31 -116.814
## + PTS              1     0.226 264.31 -116.802
## + TOV.             1     0.192 264.35 -116.752
## + gs_adj           1     0.179 264.36 -116.733
```

```
## + AST.            1      0.164 264.38 -116.712
## + ORtg            1      0.151 264.39 -116.692
## + blk_adj         1      0.013 264.53 -116.492
## + GS              1      0.007 264.53 -116.483
## - BLK.            1      2.788 267.33 -116.436
## + Pos             6      5.740 258.80 -114.918
## - vorp_adj        1      4.805 269.35 -113.542
## - OBPM            1      6.321 270.86 -111.382
## - orb_adj         1      6.657 271.20 -110.905
## - DBPM            1     11.301 275.84 -104.367
## - USG.            1     13.107 277.65 -101.855
## - Conference      2     15.461 280.00 -100.604
## - MP              1     19.531 284.07  -93.048
## - Age             1     36.875 301.41  -70.232
##
## Step:  AIC=-121.95
## logsal ~ MP + Age + Conference + USG. + DBPM + orb_adj + BLK. +
##      DRtg + OBPM + vorp_adj + G + dws_adj
##
##                  Df Sum of Sq    RSS      AIC
## + ows_adj         1      3.751 257.05 -125.525
## + PER             1      1.555 259.25 -122.249
## <none>                         260.80 -121.947
## + Height          1      1.076 259.73 -121.539
## + WS.48           1      0.879 259.93 -121.247
## + DRB.            1      0.766 260.04 -121.079
## - BLK.            1      1.965 262.77 -121.058
## + International   1      0.728 260.08 -121.023
## + ftr_adj         1      0.653 260.15 -120.913
## + X3PAr           1      0.624 260.18 -120.870
## + blk_adj         1      0.500 260.30 -120.687
## + TS.             1      0.391 260.41 -120.524
## + PTS             1      0.358 260.45 -120.477
## + FTr             1      0.284 260.52 -120.366
## + STL.            1      0.263 260.54 -120.336
## + TOV.            1      0.161 260.64 -120.184
## + ORtg            1      0.132 260.67 -120.142
## + stl_adj         1      0.127 260.68 -120.135
## + AST.            1      0.116 260.69 -120.118
## + GS              1      0.037 260.77 -120.001
## + gs_adj          1      0.000 260.80 -119.947
## - dws_adj         1      3.735 264.54 -118.473
## - DRtg            1      4.148 264.95 -117.872
## - G               1      4.303 265.11 -117.646
## + Pos             6      5.056 255.75 -117.485
## - orb_adj         1      5.541 266.35 -115.853
## - vorp_adj        1      6.810 267.61 -114.024
## - OBPM            1      7.043 267.85 -113.688
## - MP              1      8.197 269.00 -112.032
## - DBPM            1      9.769 270.57 -109.790
## - USG.            1     12.087 272.89 -106.506
## - Conference      2     15.128 275.93 -104.239
## - Age             1     34.504 295.31  -76.112
##
```

```
## Step:  AIC=-125.53
## logsal ~ MP + Age + Conference + USG. + DBPM + orb_adj + BLK. +
##     DRtg + OBPM + vorp_adj + G + dws_adj + ows_adj
##
##                   Df Sum of Sq    RSS      AIC
## + WS.48            1     3.987 253.07 -129.543
## + PER             1     3.233 253.82 -128.399
## + ftr_adj         1     2.033 255.02 -126.582
## + X3PAr           1     1.894 255.16 -126.373
## <none>                        257.05 -125.525
## + FTr             1     1.211 255.84 -125.342
## + DRB.            1     0.989 256.06 -125.009
## + Height          1     0.883 256.17 -124.851
## + TS.             1     0.834 256.22 -124.776
## + ORtg            1     0.753 256.30 -124.655
## + International   1     0.599 256.45 -124.423
## + blk_adj         1     0.486 256.57 -124.254
## + TOV.            1     0.215 256.84 -123.848
## + AST.            1     0.213 256.84 -123.845
## - BLK.            1     2.591 259.64 -123.664
## + PTS             1     0.059 256.99 -123.614
## + STL.            1     0.046 257.01 -123.594
## + GS              1     0.023 257.03 -123.560
## + gs_adj          1     0.010 257.04 -123.540
## + stl_adj         1     0.000 257.05 -123.525
## - orb_adj         1     3.451 260.50 -122.390
## - OBPM            1     3.699 260.75 -122.024
## - ows_adj         1     3.751 260.80 -121.947
## - DRtg            1     4.569 261.62 -120.742
## - dws_adj         1     5.009 262.06 -120.095
## + Pos             6     4.314 252.74 -120.042
## - G               1     5.864 262.92 -118.841
## - MP              1     6.636 263.69 -117.712
## - vorp_adj        1    10.556 267.61 -112.031
## - USG.            1    11.523 268.58 -110.643
## - DBPM            1    12.097 269.15 -109.820
## - Conference      2    15.207 272.26 -107.397
## - Age             1    33.866 290.92  -79.877
##
## Step:  AIC=-129.54
## logsal ~ MP + Age + Conference + USG. + DBPM + orb_adj + BLK. +
##     DRtg + OBPM + vorp_adj + G + dws_adj + ows_adj + WS.48
##
##                   Df Sum of Sq    RSS      AIC
## - DRtg            1     0.272 253.34 -131.13
## - BLK.            1     0.367 253.43 -130.99
## + Height          1     1.383 251.68 -129.65
## <none>                        253.07 -129.54
## + ORtg            1     0.918 252.15 -128.94
## + ftr_adj         1     0.698 252.37 -128.61
## + STL.            1     0.548 252.52 -128.38
## + blk_adj         1     0.454 252.61 -128.23
## + International   1     0.421 252.65 -128.18
## + FTr             1     0.279 252.79 -127.97
```

```
## + stl_adj        1     0.258 252.81 -127.94
## + AST.           1     0.251 252.82 -127.92
## + PER            1     0.249 252.82 -127.92
## + DRB.           1     0.184 252.88 -127.82
## + PTS            1     0.159 252.91 -127.78
## + GS             1     0.036 253.03 -127.60
## + X3PAr          1     0.036 253.03 -127.60
## + TOV.           1     0.022 253.04 -127.58
## + TS.            1     0.014 253.05 -127.56
## + gs_adj         1     0.009 253.06 -127.56
## - USG.           1     2.691 255.76 -127.47
## + Pos            6     5.708 247.36 -126.33
## - WS.48          1     3.987 257.05 -125.53
## - MP             1     5.150 258.22 -123.79
## - DBPM           1     5.238 258.31 -123.66
## - orb_adj        1     6.635 259.70 -121.58
## - dws_adj        1     6.653 259.72 -121.55
## - ows_adj        1     6.859 259.93 -121.25
## - OBPM           1     7.077 260.14 -120.92
## - G              1     7.208 260.27 -120.73
## - Conference     2    14.495 267.56 -112.10
## - vorp_adj       1    14.280 267.35 -110.41
## - Age            1    35.554 288.62  -80.93
##
## Step:  AIC=-131.13
## logsal ~ MP + Age + Conference + USG. + DBPM + orb_adj + BLK. +
##     OBPM + vorp_adj + G + dws_adj + ows_adj + WS.48
##
##                 Df Sum of Sq    RSS      AIC
## - BLK.           1     0.254 253.59 -132.744
## + Height         1     1.463 251.88 -131.358
## <none>                       253.34 -131.129
## + ORtg           1     1.165 252.17 -130.904
## + STL.           1     0.791 252.55 -130.334
## + ftr_adj        1     0.473 252.87 -129.849
## + stl_adj        1     0.387 252.95 -129.718
## + International  1     0.345 252.99 -129.654
## + blk_adj        1     0.330 253.01 -129.631
## + AST.           1     0.329 253.01 -129.630
## + DRtg           1     0.272 253.07 -129.543
## + FTr            1     0.208 253.13 -129.445
## + PTS            1     0.161 253.18 -129.374
## + DRB.           1     0.149 253.19 -129.355
## + PER            1     0.139 253.20 -129.340
## - USG.           1     2.574 255.91 -129.237
## + TS.            1     0.053 253.28 -129.210
## + GS             1     0.040 253.30 -129.189
## + gs_adj         1     0.034 253.30 -129.181
## + TOV.           1     0.026 253.31 -129.168
## + X3PAr          1     0.002 253.34 -129.132
## + Pos            6     5.875 247.46 -128.163
## - DBPM           1     5.917 259.25 -124.241
## - dws_adj        1     6.559 259.90 -123.288
## - MP             1     7.239 260.58 -122.282
```

```
## - G                    1     7.355 260.69 -122.110
## - ows_adj              1     7.886 261.23 -121.327
## - WS.48                1     8.284 261.62 -120.742
## - orb_adj              1     8.447 261.79 -120.501
## - OBPM                 1    11.876 265.21 -115.491
## - Conference           2    14.345 267.68 -113.924
## - vorp_adj             1    16.552 269.89 -108.763
## - Age                  1    36.570 289.91  -81.217
##
## Step:  AIC=-132.74
## logsal ~ MP + Age + Conference + USG. + DBPM + orb_adj + OBPM +
##     vorp_adj + G + dws_adj + ows_adj + WS.48
##
##                 Df Sum of Sq    RSS      AIC
## <none>                        253.59 -132.744
## + Height         1     1.210 252.38 -132.586
## + ORtg           1     0.959 252.63 -132.202
## + blk_adj        1     0.533 253.06 -131.554
## + AST.           1     0.462 253.13 -131.446
## + ftr_adj        1     0.407 253.19 -131.362
## + STL.           1     0.369 253.22 -131.304
## - USG.           1     2.321 255.91 -131.237
## + International  1     0.307 253.28 -131.210
## + BLK.           1     0.254 253.34 -131.129
## + PER            1     0.242 253.35 -131.112
## + PTS            1     0.186 253.41 -131.026
## + FTr            1     0.174 253.42 -131.008
## + DRtg           1     0.159 253.43 -130.985
## + stl_adj        1     0.151 253.44 -130.973
## + DRB.           1     0.110 253.48 -130.911
## + GS             1     0.051 253.54 -130.821
## + TOV.           1     0.046 253.55 -130.813
## + gs_adj         1     0.021 253.57 -130.776
## + X3PAr          1     0.013 253.58 -130.764
## + TS.            1     0.011 253.58 -130.761
## + Pos            6     5.260 248.33 -128.814
## - DBPM           1     6.186 259.78 -125.465
## - MP             1     6.990 260.58 -124.275
## - G              1     7.553 261.14 -123.445
## - dws_adj        1     7.933 261.52 -122.885
## - ows_adj        1     8.049 261.64 -122.714
## - orb_adj        1     8.202 261.79 -122.489
## - WS.48          1    10.969 264.56 -118.442
## - Conference     2    14.236 267.83 -115.715
## - OBPM           1    15.389 268.98 -112.062
## - vorp_adj       1    16.946 270.54 -109.840
## - Age            1    36.909 290.50  -82.429
```

Variance Inflation Factors

```
full = lm(logsal ~ ., data = data_regressors)
summary(full)
```

```
##
```

```
## Call:
## lm(formula = logsal ~ ., data = data_regressors)
##
## Residuals:
##      Min      1Q   Median      3Q      Max
## -2.89634 -0.45887  0.02604  0.54120  1.91738
##
## Coefficients:
##                   Estimate Std. Error t value Pr(>|t|)
## (Intercept)      7.4008123  6.3254510   1.170  0.24280
## Age              0.0646425  0.0107122   6.034 4.10e-09 ***
## G               -0.0178459  0.0059294  -3.010  0.00281 **
## GS              -0.0021455  0.0042821  -0.501  0.61667
## gs_adj           0.0396328  0.0730560   0.542  0.58782
## MP               0.0005660  0.0003375   1.677  0.09449 .
## PER             -0.0117003  0.0758247  -0.154  0.87746
## X3PAr            0.5024624  0.5770514   0.871  0.38450
## FTr              1.7980956  1.3719994   1.311  0.19087
## ftr_adj         -2.2892221  1.4853599  -1.541  0.12418
## orb_adj          0.2295850  0.1674220   1.371  0.17117
## DRB.            -0.0252907  0.0188371  -1.343  0.18028
## AST.             0.0110053  0.0144804   0.760  0.44777
## STL.            -0.2341728  0.2063054  -1.135  0.25713
## stl_adj          0.5876361  0.5423143   1.084  0.27931
## BLK.            -0.0029507  0.1022943  -0.029  0.97701
## blk_adj         -0.3231552  0.3078111  -1.050  0.29452
## TOV.             0.0081408  0.0257820   0.316  0.75238
## USG.             0.0672225  0.0420846   1.597  0.11111
## ORtg             0.0369474  0.0239225   1.544  0.12339
## DRtg             0.0135157  0.0505360   0.267  0.78928
## ows_adj          1.4202772  0.4624449   3.071  0.00230 **
## dws_adj          0.9720928  0.3929347   2.474  0.01384 *
## WS.48           -6.3523003  5.3913932  -1.178  0.23951
## OBPM             0.1170824  0.1007643   1.162  0.24606
## DBPM             0.2177996  0.0792673   2.748  0.00632 **
## vorp_adj        -0.9934099  0.2133267  -4.657 4.59e-06 ***
## PosC-F           0.3415669  0.3389145   1.008  0.31424
## PosF            -0.1952697  0.1972747  -0.990  0.32295
## PosF-C          -0.0142731  0.2244035  -0.064  0.94932
## PosF-G          -0.3848567  0.3062600  -1.257  0.20973
## PosG            -0.6576945  0.3107234  -2.117  0.03500 *
## PosG-F          -0.5170538  0.2817117  -1.835  0.06730 .
## Height           0.0114742  0.0311866   0.368  0.71316
## PTS             -0.0001013  0.0005238  -0.193  0.84671
## TS.             -2.1923651  3.0757210  -0.713  0.47645
## InternationalYes -0.0243684  0.1124619  -0.217  0.82858
## ConferenceMulti -0.6762959  0.1585817  -4.265 2.59e-05 ***
## ConferenceWest  -0.0734721  0.0990529  -0.742  0.45874
## ---
## Signif. codes:  0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1
##
## Residual standard error: 0.8284 on 346 degrees of freedom
## Multiple R-squared:  0.5732, Adjusted R-squared:  0.5263
## F-statistic: 12.23 on 38 and 346 DF,  p-value: < 2.2e-16
```

```
vif(full)[,3]
```

```
##          Age          G         GS      gs_adj         MP
##     1.122361   3.132466   3.027375   2.782811   6.556456
##          PER      X3PAr        FTr     ftr_adj    orb_adj
##     9.045968   2.676161   5.028118   5.090975   2.590213
##          DRB.       AST.       STL.     stl_adj       BLK.
##     2.595555   3.158967   4.013347   3.739783   4.008446
##      blk_adj       TOV.       USG.       ORtg       DRtg
##     3.729845   2.924985   4.973440   6.458744   4.692501
##      ows_adj    dws_adj     WS.48       OBPM       DBPM
##     3.026840   4.878354   9.317137   6.522594   3.814847
##     vorp_adj        Pos     Height        PTS        TS.
##     3.045822   1.236098   2.561094   5.738607   4.520645
## International  Conference
##     1.127314   1.100006
```

```
full2 = lm(logsal ~ . - WS.48 - PER - ORtg - PTS, data = data_regressors) # Sequentially removed highes
```

Added Variable Plots

Diagnostics

Leverage Points

Cook's Distances

Outliers

Model Fitting

Test for Interaction

Test for Higher Order

Model Validation

Final Model

Discussion

Conclusion