

FinalReport

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Introduction

Variable Selection

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
Salary	Salary in dollars	Numeric	players salary

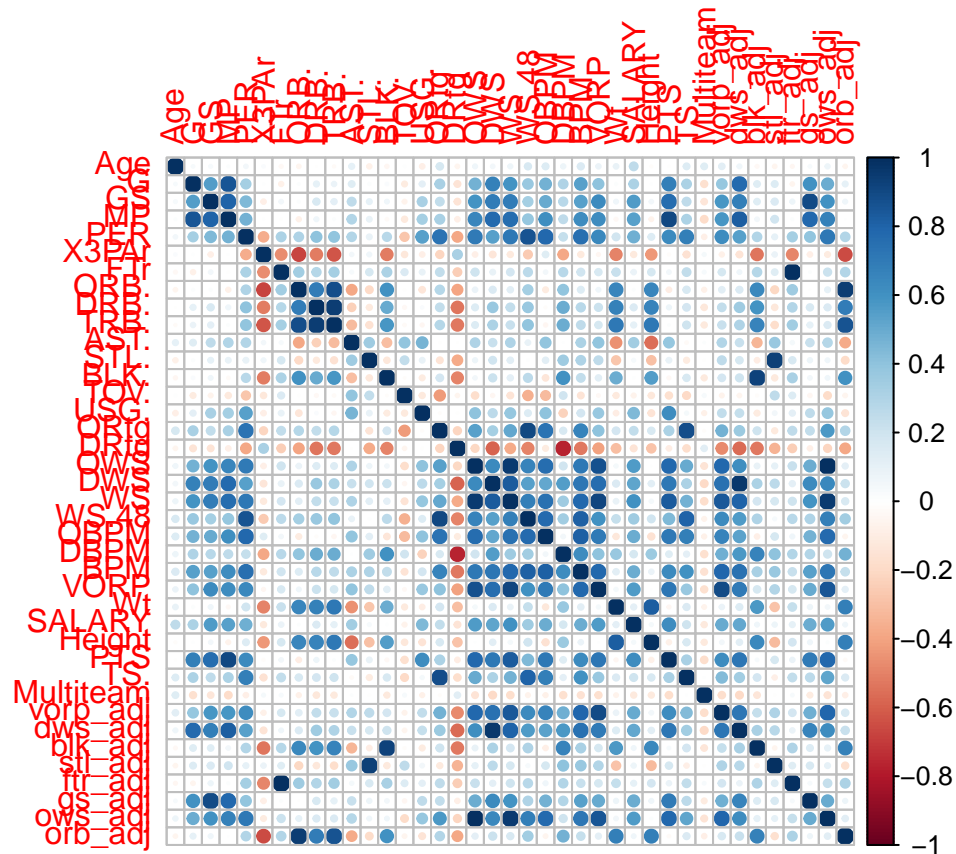
Exploratory Data Analysis

```
data <- read.csv("data/PlayerData.csv")[,-1]

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

Correlation Matrix

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



```
# Which did we remove from here and why?
```

Stepwise Regression Models

```
data <- read_csv("data/PlayerData.csv")

## New names:
## Rows: 385 Columns: 49
## -- Column specification
## ----- Delimiter: "," chr
## (9): Player, Tm, Place_of_Birth, Pos, Ht, Birth.Date, College, Internat... dbl
## (40): ...1, Age, G, GS, MP, PER, X3PAr, FTr, ORB., DRB., TRB., AST., STL...
## i Use `spec()` to retrieve the full column specification for this data. i
## Specify the column types or set `show_col_types = FALSE` to quiet this message.
## * `` -> `...1`
```

```

data_regressors <- data %>% mutate(logsal = log(SALARY)) %>%
  dplyr::select(logsal, Age, G, GS, gs_adj, MP, PER, X3PAr, FTr, ftr_adj, ORB., orb_adj, DRB., TRB., AST
    STL., stl_adj, BLK., blk_adj, TOV., USG., ORtg, DRtg, OWS, ows_adj, DWS, dws_adj, WS.48
    OBPM, DBPM, VORP, vorp_adj, Pos, Height, PTS, TS., International, Conference)
attach(data_regressors)
Pos <- as.factor(Pos)
International <- as.factor(International)
Conference <- as.factor(Conference)

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
## -3.01123 -0.45112  0.01986  0.53385  1.93193
##
## Coefficients:
##              Estimate Std. Error t value Pr(>|t|)
## (Intercept)    4.4225997   6.8296551    0.648  0.51771
## Age             0.0630723   0.0108876    5.793 1.57e-08 ***
## G             -0.0203828   0.0061556   -3.311  0.00103 **
## GS            -0.0006357   0.0044519   -0.143  0.88654
## gs_adj         0.0165965   0.0752748    0.220  0.82563
## MP             0.0005305   0.0003673    1.445  0.14951
## PER           -0.0174388   0.0784872   -0.222  0.82430
## X3PAr          0.6974562   0.6075721    1.148  0.25180
## FTr            4.1859741   3.5760217    1.171  0.24259
## ftr_adj       -6.1036319   4.9320476   -1.238  0.21674
## ORB.          -0.2008639   0.2006313   -1.001  0.31746
## orb_adj        0.2144035   0.2928215    0.732  0.46455
## DRB.          -0.2363441   0.1966500   -1.202  0.23026
## TRB.           0.4371859   0.3945849    1.108  0.26866
## AST.           0.0181086   0.0156213    1.159  0.24718
## STL.          -0.2181312   0.2047322   -1.065  0.28743
## stl_adj        0.6058089   0.5364506    1.129  0.25957
## BLK.          -0.0063714   0.1047194   -0.061  0.95152
## blk_adj       -0.2721569   0.3076517   -0.885  0.37698
## TOV.           0.0021125   0.0276936    0.076  0.93924
## USG.           0.0617779   0.0422083    1.464  0.14421
## ORtg           0.0220255   0.0249201    0.884  0.37740
## DRtg           0.0288892   0.0539888    0.535  0.59293
## OWS           -0.1233481   0.5093160   -0.242  0.80878
## ows_adj        8.4004018  11.6084572    0.724  0.46978
## DWS           -0.0896228   0.2381367   -0.376  0.70689
## dws_adj        1.2651898   0.7187115    1.760  0.07924 .
## WS.48         -4.9672150   5.4844609   -0.906  0.36574
## OBPM           0.1282551   0.1092672    1.174  0.24130
## DBPM           0.2533772   0.0860760    2.944  0.00347 **
## VORP          -0.2712728   0.1809745   -1.499  0.13481

```

```
## vorp_adj      -0.7052569  0.2948591  -2.392  0.01731 *
## PosC-F        0.2750336  0.3458740   0.795  0.42706
## PosF         -0.1731032  0.2057598  -0.841  0.40078
## PosF-C        0.0093911  0.2310966   0.041  0.96761
## PosF-G       -0.3437900  0.3114840  -1.104  0.27049
## PosG         -0.6538078  0.3138647  -2.083  0.03799 *
## PosG-F       -0.4935578  0.2866025  -1.722  0.08596 .
## Height        0.0037293  0.0313987   0.119  0.90553
## PTS           0.0001479  0.0005863   0.252  0.80099
## TS.          -0.9776647  3.2686250  -0.299  0.76504
## InternationalYes -0.0470952  0.1147774  -0.410  0.68183
## ConferenceMulti -0.6674140  0.1595178  -4.184  3.65e-05 ***
## ConferenceWest -0.0894918  0.1003389  -0.892  0.37308
## ---
## Signif. codes:  0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1
##
## Residual standard error: 0.8305 on 341 degrees of freedom
## Multiple R-squared:  0.5773, Adjusted R-squared:  0.524
## F-statistic: 10.83 on 43 and 341 DF,  p-value: < 2.2e-16
```

```
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   177.276 379.12   5.983
## + DWS       1   155.441 400.96  27.542
## + GS        1   150.239 406.16  32.505
## + gs_adj    1   148.593 407.80  34.062
## + ows_adj   1   137.559 418.84  44.340
## + G         1   134.283 422.11  47.339
## + OWS       1   132.960 423.44  48.544
## + OBPM      1   126.131 430.27  54.704
## + VORP      1   116.845 439.55  62.925
## + 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
## + TRB.      1     6.763 549.64 148.971
## + orb_adj   1     5.968 550.43 149.527
```

```

## + blk_adj      1      5.623 550.77 149.768
## + 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
## + ftr_adj      1      1.264 555.13 152.803
## + ORB.         1      0.747 555.65 153.162
## + 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
## + OBPM     1     8.947 341.51 -28.284
## + DBPM     1     7.922 342.54 -27.130
## + ows_adj  1     7.724 342.74 -26.908
## + OWS      1     7.552 342.91 -26.715
## + USG.     1     7.500 342.96 -26.655
## + WS.48    1     7.398 343.06 -26.541
## + dws_adj  1     7.237 343.23 -26.360
## + 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
## + TRB.     1     5.716 344.75 -24.659
## + AST.     1     5.664 344.80 -24.600
## + VORP     1     5.647 344.82 -24.581
## <none>          350.46 -24.281
## + DRB.     1     5.362 345.10 -24.263
## + Conference 2     9.952 340.51 -23.465
## + DWS      1     4.623 345.84 -23.440
## + vorp_adj  1     4.560 345.90 -23.370
## + ORB.     1     3.829 346.63 -22.556
## + 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
## + GS       1     1.217 349.24 -19.666
## + ftr_adj  1     0.799 349.66 -19.207
## + 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
## + 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
## + Height           1     6.376 312.49 -56.529
## + TRB.             1     6.304 312.56 -56.440
## + DBPM             1     5.690 313.17 -55.685
## + DRB.             1     5.453 313.41 -55.394
## + OWS              1     5.322 313.54 -55.233
## + ows_adj          1     5.162 313.70 -55.037
## + ORB.             1     5.111 313.75 -54.974
## <none>                318.86 -54.706
## + dws_adj          1     4.642 314.22 -54.399
## + DRtg             1     4.605 314.26 -54.353
## + X3PAr            1     4.420 314.44 -54.127
## + OBPM             1     4.154 314.71 -53.801
## + VORP             1     3.468 315.40 -52.963
## + 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
## + DWS              1     3.024 315.84 -52.421
## + 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
## + International    1     1.579 317.28 -50.665
## + ftr_adj          1     1.258 317.61 -50.274
## + 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
## + OWS              1     5.042 297.14 -64.013
## + OBPM             1     4.879 297.30 -63.801

```

```

## + ows_adj      1      4.828 297.35 -63.735
## <none>          1      302.18 -63.488
## + TRB.         1      4.595 297.59 -63.434
## + Height       1      4.391 297.79 -63.170
## + ORB.         1      4.116 298.06 -62.815
## + X3PAr        1      4.033 298.15 -62.707
## + AST.         1      3.904 298.28 -62.541
## + DRB.         1      3.730 298.45 -62.316
## + DBPM         1      3.300 298.88 -61.762
## + WS.48        1      2.974 299.21 -61.342
## + dws_adj      1      2.808 299.37 -61.129
## + VORP         1      2.567 299.61 -60.820
## + 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
## + ftr_adj      1      1.755 300.43 -59.777
## + blk_adj      1      1.752 300.43 -59.773
## + DWS          1      1.615 300.57 -59.597
## + 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
## + ORB.      1      6.039 284.87 -74.292
## + TRB.      1      5.405 285.50 -73.437
## <none>      1      290.91 -72.170
## + dws_adj   1      3.686 287.22 -71.126
## + 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
## + ows_adj   1      2.068 288.84 -68.963
## + OWS       1      2.002 288.91 -68.875
## + BLK.      1      1.972 288.94 -68.835

```

```

## + OBPM          1      1.647 289.26 -68.402
## + ORtg          1      1.586 289.32 -68.321
## + DWS           1      1.454 289.46 -68.145
## + PTS           1      1.253 289.66 -67.879
## + ftr_adj       1      0.913 290.00 -67.427
## + FTr           1      0.760 290.15 -67.224
## + VORP          1      0.739 290.17 -67.196
## + 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
## + ORB.              1    1.616 279.46 -75.718
## + 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    1.033 280.05 -74.915
## + DWS               1    1.005 280.07 -74.877
## + OWS               1    0.979 280.10 -74.841
## + vorp_adj          1    0.852 280.23 -74.666
## + PTS              1    0.819 280.26 -74.621
## + TRB.              1    0.657 280.42 -74.399
## + 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
## + VORP              1    0.324 280.76 -73.941
## - 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
## + dws_adj           1    0.099 280.98 -73.633

```



```
## + X3PAr      1      0.082 281.00 -73.609
## + FTr        1      0.071 281.01 -73.594
## + ftr_adj    1      0.052 281.03 -73.569
## + TOV.       1      0.025 281.05 -73.531
## + 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
```

```
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	177.276	379.12	-1.924
## + DWS	1	155.441	400.96	19.635
## + GS	1	150.239	406.16	24.598
## + gs_adj	1	148.593	407.80	26.155
## + ows_adj	1	137.559	418.84	36.434
## + G	1	134.283	422.11	39.433
## + OWS	1	132.960	423.44	40.638
## + OBPM	1	126.131	430.27	46.797
## + VORP	1	116.845	439.55	55.018
## + 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
## + TRB.	1	6.763	549.64	141.064
## + orb_adj	1	5.968	550.43	141.621
## + blk_adj	1	5.623	550.77	141.862
## + 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
## + ftr_adj	1	1.264	555.13	144.897
## + Pos	6	15.293	541.10	145.042
## + ORB.	1	0.747	555.65	145.255
## + 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
## + OBPM        1      8.947 341.51 -40.144
## + Conference   2      9.952 340.51 -39.278
## + DBPM         1      7.922 342.54 -38.990
## + ows_adj      1      7.724 342.74 -38.767
## + OWS          1      7.552 342.91 -38.574
## + USG.         1      7.500 342.96 -38.515
## + WS.48        1      7.398 343.06 -38.401
## + dws_adj      1      7.237 343.23 -38.220
## + 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
## + TRB.         1      5.716 344.75 -36.518
## + AST.         1      5.664 344.80 -36.460
## + VORP         1      5.647 344.82 -36.441
## + DRB.         1      5.362 345.10 -36.123
## + DWS          1      4.623 345.84 -35.300
## + vorp_adj     1      4.560 345.90 -35.230
## + Pos          6     13.359 337.10 -35.150
## + ORB.         1      3.829 346.63 -34.416
## + 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
## + GS           1      1.217 349.24 -31.526
## + ftr_adj      1      0.799 349.66 -31.066
## + 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

```

```

## + Height      1      6.376 312.49 -72.342
## + TRB.        1      6.304 312.56 -72.253
## + DBPM        1      5.690 313.17 -71.498
## + DRB.        1      5.453 313.41 -71.207
## + OWS         1      5.322 313.54 -71.046
## + ows_adj     1      5.162 313.70 -70.850
## + ORB.        1      5.111 313.75 -70.787
## + dws_adj     1      4.642 314.22 -70.212
## + DRtg        1      4.605 314.26 -70.166
## + X3PAr       1      4.420 314.44 -69.940
## + OBPM        1      4.154 314.71 -69.614
## + Pos         6     12.036 306.83 -69.379
## + VORP        1      3.468 315.40 -68.776
## + 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
## + DWS         1      3.024 315.84 -68.234
## + 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
## + International 1      1.579 317.28 -66.478
## + ftr_adj     1      1.258 317.61 -66.087
## + 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
## + OWS       1     5.042 297.14 -87.732
## + OBPM      1     4.879 297.30 -87.521
## + ows_adj   1     4.828 297.35 -87.455
## + TRB.      1     4.595 297.59 -87.154
## + Height    1     4.391 297.79 -86.889
## + ORB.      1     4.116 298.06 -86.534
## + X3PAr     1     4.033 298.15 -86.427
## + AST.      1     3.904 298.28 -86.261
## + DRB.      1     3.730 298.45 -86.036
## + DBPM      1     3.300 298.88 -85.482
## + WS.48     1     2.974 299.21 -85.061
## + dws_adj   1     2.808 299.37 -84.849

```

```

## + VORP          1      2.567 299.61 -84.539
## + 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      1.755 300.43 -83.496
## + blk_adj       1      1.752 300.43 -83.493
## + DWS           1      1.615 300.57 -83.317
## <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
## + ORB.       1      6.039 284.87 -101.965
## + TRB.       1      5.405 285.50 -101.110
## + Pos        6     11.647 279.26  -99.620
## + dws_adj    1      3.686 287.22  -98.798
## + 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
## + ows_adj    1      2.068 288.84  -96.635
## + OWS        1      2.002 288.91  -96.548
## + BLK.       1      1.972 288.94  -96.508
## + OBPM       1      1.647 289.26  -96.075
## + ORtg       1      1.586 289.32  -95.994
## <none>       290.91 -95.889
## + DWS        1      1.454 289.46  -95.818
## + PTS        1      1.253 289.66  -95.551
## + ftr_adj    1      0.913 290.00  -95.100
## + FTr        1      0.760 290.15  -94.897
## + VORP       1      0.739 290.17  -94.869
## + 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
## + ORB.         1      1.616 279.46 -107.344
## <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      1.033 280.05 -106.541
## + DWS          1      1.005 280.07 -106.503
## + OWS          1      0.979 280.10 -106.467
## + vorp_adj     1      0.852 280.23 -106.292
## + PTS          1      0.819 280.26 -106.247
## + TRB.         1      0.657 280.42 -106.024
## + 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
## + VORP         1      0.324 280.76 -105.567
## + 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
## + dws_adj      1      0.099 280.98 -105.259
## + X3PAr        1      0.082 281.00 -105.235
## + FTr          1      0.071 281.01 -105.220
## + ftr_adj      1      0.052 281.03 -105.195
## + TOV.         1      0.025 281.05 -105.157
## + 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
## + ORB.       1      1.386 276.46 -109.509
## + TRB.       1      1.371 276.47 -109.489
## + DWS        1      1.349 276.49 -109.458
## + 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
## + OWS        1      0.532 277.31 -108.321
## + ows_adj    1      0.517 277.32 -108.302
## + FTr        1      0.371 277.47 -108.098
## + ftr_adj    1      0.366 277.48 -108.092
## + ORtg       1      0.328 277.51 -108.038
## + Height     1      0.316 277.53 -108.022
## + dws_adj    1      0.276 277.57 -107.967
## + VORP       1      0.262 277.58 -107.948
## + 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
## - 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
## + DWS        1      1.782 273.14 -112.155
## + 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

```

```

## + TRB.          1      1.146 273.78 -111.259
## + 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
## + ORB.          1      0.650 274.27 -110.563
## + G             1      0.604 274.32 -110.498
## + ORtg          1      0.603 274.32 -110.498
## + dws_adj       1      0.560 274.36 -110.436
## + X3PAr         1      0.551 274.37 -110.424
## + ows_adj       1      0.502 274.42 -110.356
## + OWS           1      0.492 274.43 -110.341
## + VORP          1      0.474 274.45 -110.316
## + International 1      0.360 274.56 -110.156
## + stl_adj       1      0.331 274.59 -110.115
## + ftr_adj       1      0.237 274.68 -109.984
## + FTr          1      0.228 274.69 -109.971
## + 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
## + 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
## + ows_adj   1      1.079 270.99 -113.202
## + OWS       1      1.017 271.05 -113.114
## + Height    1      0.993 271.07 -113.080
## + 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
## + AST.      1      0.394 271.67 -112.230
## + vorp_adj  1      0.392 271.67 -112.227

```

```

## + dws_adj      1      0.391 271.67 -112.226
## + ftr_adj      1      0.374 271.69 -112.203
## + 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
## + TRB.         1      0.247 271.82 -112.022
## + TOV.         1      0.134 271.93 -111.862
## + VORP         1      0.126 271.94 -111.850
## + blk_adj      1      0.116 271.95 -111.837
## + DWS          1      0.084 271.98 -111.792
## + ORB.         1      0.042 272.02 -111.732
## + 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
## + VORP          1      2.081 267.45 -116.262
## + Height        1      1.421 268.11 -115.313
## <none>                269.53 -115.278
## + STL.          1      1.007 268.52 -114.719
## + PER           1      0.711 268.82 -114.296
## + International  1      0.682 268.85 -114.254
## + ftr_adj       1      0.598 268.93 -114.134
## + 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
## + dws_adj       1      0.396 269.13 -113.845
## + 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
## + TRB.          1      0.081 269.45 -113.394
## + DWS           1      0.063 269.47 -113.368
## + 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
## + ows_adj       1      0.014 269.51 -113.299

```



```

## + OWS          1      0.009 269.52 -113.291
## + ORB.         1      0.008 269.52 -113.290
## + GS           1      0.003 269.53 -113.283
## + ORtg         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      1.693 264.84 -118.031
## + Height     1      1.409 265.13 -117.620
## <none>                266.54 -117.579
## + OWS        1      1.371 265.17 -117.564
## + PER         1      0.984 265.55 -117.003
## + dws_adj     1      0.984 265.55 -117.003
## + STL.        1      0.915 265.62 -116.902
## + 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
## + ftr_adj     1      0.485 266.05 -116.279
## + 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
## + DWS         1      0.192 266.34 -115.856
## + 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        1      0.091 266.44 -115.711
## + TRB.        1      0.069 266.47 -115.678
## + ORB.        1      0.004 266.53 -115.584
## - 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      2.688 261.85 -120.404
## + ows_adj    1      1.977 262.56 -119.361
## + OWS        1      1.541 263.00 -118.722
## - 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      0.828 263.71 -117.679
## + 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
## + DWS        1      0.265 264.27 -116.858
## + VORP       1      0.236 264.30 -116.816
## + 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
## + TRB.       1      0.149 264.39 -116.689
## + blk_adj    1      0.013 264.53 -116.492
## + GS         1      0.007 264.53 -116.483
## + ORB.       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=-120.4
## 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      2.833 259.02 -122.593
## + OWS        1      2.176 259.68 -121.616

```

```

## + PER          1      1.594 260.26 -120.755
## + DWS          1      1.396 260.45 -120.463
## <none>                261.85 -120.404
## + Height       1      0.892 260.96 -119.718
## + WS.48        1      0.795 261.06 -119.575
## + DRB.         1      0.685 261.17 -119.413
## + X3PAr        1      0.673 261.18 -119.395
## - BLK.         1      2.134 263.99 -119.280
## + International 1      0.584 261.27 -119.263
## + PTS          1      0.463 261.39 -119.086
## + ftr_adj      1      0.441 261.41 -119.053
## + TRB.         1      0.435 261.42 -119.044
## + VORP         1      0.422 261.43 -119.025
## + STL.         1      0.415 261.44 -119.015
## + TS.          1      0.414 261.44 -119.013
## + FTr          1      0.333 261.52 -118.895
## + blk_adj      1      0.291 261.56 -118.833
## + TOV.         1      0.189 261.66 -118.682
## + AST.         1      0.167 261.69 -118.649
## + ORtg         1      0.155 261.70 -118.632
## + stl_adj      1      0.120 261.73 -118.580
## - dws_adj      1      2.688 264.54 -118.473
## + GS           1      0.026 261.82 -118.443
## + ORB.         1      0.011 261.84 -118.420
## + gs_adj       1      0.008 261.84 -118.416
## - DRtg         1      3.616 265.47 -117.125
## - G            1      3.699 265.55 -117.003
## + Pos          6      4.795 257.06 -115.520
## - orb_adj      1      5.608 267.46 -114.246
## - vorp_adj     1      6.933 268.79 -112.343
## - MP           1      7.652 269.50 -111.314
## - OBPM         1      7.770 269.62 -111.147
## - DBPM         1     11.655 273.51 -105.638
## - USG.         1     12.479 274.33 -104.480
## - Conference   2     15.452 277.30 -102.331
## - Age          1     35.154 297.01  -73.904
##
## Step:  AIC=-122.59
## logsal ~ MP + Age + Conference + USG. + DBPM + orb_adj + BLK. +
##      DRtg + OBPM + vorp_adj + G + dws_adj + ows_adj
##
##           Df Sum of Sq    RSS      AIC
## + VORP      1      3.181 255.84 -125.349
## + WS.48     1      2.591 256.43 -124.463
## + PER       1      2.501 256.52 -124.328
## + DWS       1      2.310 256.71 -124.042
## + OWS       1      1.640 257.38 -123.038
## + X3PAr     1      1.468 257.55 -122.781
## <none>                259.02 -122.593
## + ftr_adj   1      1.289 257.73 -122.514
## + FTr       1      1.053 257.97 -122.161
## + DRB.      1      0.853 258.17 -121.863
## + Height    1      0.769 258.25 -121.738
## + TRB.      1      0.677 258.34 -121.601

```

```

## + TS.          1      0.563 258.45 -121.431
## + International 1      0.476 258.54 -121.300
## + ORtg         1      0.394 258.62 -121.179
## + blk_adj      1      0.277 258.74 -121.004
## + AST.         1      0.190 258.83 -120.875
## + STL.         1      0.149 258.87 -120.814
## + TOV.         1      0.148 258.87 -120.813
## - BLK.         1      2.560 261.58 -120.806
## + PTS          1      0.056 258.96 -120.676
## + GS           1      0.042 258.98 -120.655
## + gs_adj       1      0.036 258.98 -120.645
## + ORB.         1      0.008 259.01 -120.605
## + stl_adj      1      0.002 259.02 -120.596
## - ows_adj      1      2.833 261.85 -120.404
## - dws_adj      1      3.544 262.56 -119.361
## - orb_adj      1      3.982 263.00 -118.719
## - DRtg         1      4.019 263.04 -118.665
## - OBPM         1      4.411 263.43 -118.091
## - G            1      4.494 263.51 -117.970
## + Pos          6      4.228 254.79 -116.929
## - MP           1      5.985 265.00 -115.798
## - vorp_adj     1      9.766 268.78 -110.343
## - USG.         1     11.149 270.17 -108.367
## - DBPM         1     13.454 272.47 -105.098
## - Conference   2     15.647 274.67 -104.011
## - Age          1     35.468 294.49  -75.184
##
## Step:  AIC=-125.35
## logsal ~ MP + Age + Conference + USG. + DBPM + orb_adj + BLK. +
##      DRtg + OBPM + vorp_adj + G + dws_adj + ows_adj + VORP
##
##           Df Sum of Sq    RSS      AIC
## + WS.48      1      5.423 250.41 -131.599
## + PER         1      4.586 251.25 -130.313
## + X3PAR       1      3.092 252.75 -128.030
## + ORtg        1      2.165 253.67 -126.622
## + ftr_adj     1      2.069 253.77 -126.475
## + FTr         1      1.707 254.13 -125.926
## + TS.         1      1.623 254.22 -125.799
## <none>                255.84 -125.349
## + DRB.        1      0.908 254.93 -124.718
## + TRB.        1      0.751 255.09 -124.481
## + AST.        1      0.597 255.24 -124.249
## + Height      1      0.551 255.29 -124.179
## + TOV.        1      0.518 255.32 -124.129
## + DWS         1      0.453 255.38 -124.032
## + International 1      0.381 255.46 -123.923
## + blk_adj     1      0.357 255.48 -123.887
## + STL.        1      0.081 255.76 -123.472
## + ORB.        1      0.047 255.79 -123.420
## + PTS         1      0.038 255.80 -123.407
## + OWS         1      0.012 255.83 -123.367
## + gs_adj      1      0.010 255.83 -123.364
## + stl_adj     1      0.002 255.84 -123.353

```

```

## + GS          1      0.001 255.84 -123.352
## - orb_adj     1      2.920 258.76 -122.980
## - BLK.        1      3.152 258.99 -122.635
## - VORP        1      3.181 259.02 -122.593
## - DRtg        1      4.857 260.69 -120.109
## - dws_adj     1      4.875 260.71 -120.083
## - vorp_adj    1      4.938 260.77 -119.990
## - OBPM        1      5.235 261.07 -119.550
## - ows_adj     1      5.592 261.43 -119.025
## - MP          1      5.740 261.58 -118.807
## + Pos         6      3.572 252.27 -118.763
## - G           1      6.239 262.08 -118.073
## - USG.        1     13.195 269.03 -107.987
## - Conference   2     15.224 271.06 -107.096
## - DBPM        1     16.271 272.11 -103.610
## - Age         1     33.446 289.28  -80.046
##
## Step:  AIC=-131.6
## logsal ~ MP + Age + Conference + USG. + DBPM + orb_adj + BLK. +
##         DRtg + OBPM + vorp_adj + G + dws_adj + ows_adj + VORP + WS.48
##
##           Df Sum of Sq    RSS      AIC
## - DRtg      1      0.289 250.70 -133.154
## - BLK.       1      0.406 250.82 -132.975
## <none>                250.41 -131.599
## + Height     1      0.928 249.49 -131.027
## + AST.       1      0.852 249.56 -130.911
## + STL.       1      0.825 249.59 -130.870
## + ftr_adj    1      0.604 249.81 -130.528
## + PER        1      0.456 249.96 -130.300
## + FTr        1      0.443 249.97 -130.280
## + blk_adj    1      0.340 250.07 -130.121
## + stl_adj    1      0.293 250.12 -130.049
## + X3PAr      1      0.220 250.19 -129.936
## + International 1      0.183 250.23 -129.880
## + TOV.       1      0.180 250.23 -129.876
## + DWS        1      0.174 250.24 -129.866
## + ORtg       1      0.131 250.28 -129.800
## + DRB.       1      0.069 250.34 -129.705
## + TRB.       1      0.049 250.37 -129.674
## + ORB.       1      0.044 250.37 -129.667
## + OWS        1      0.043 250.37 -129.665
## + PTS        1      0.041 250.37 -129.662
## + TS.        1      0.029 250.38 -129.644
## + GS         1      0.004 250.41 -129.604
## + gs_adj     1      0.003 250.41 -129.603
## - USG.       1      3.237 253.65 -128.654
## - MP         1      4.046 254.46 -127.428
## + Pos        6      4.714 245.70 -126.915
## - WS.48      1      5.423 255.84 -125.349
## - VORP       1      6.013 256.43 -124.463
## - orb_adj    1      6.698 257.11 -123.437
## - vorp_adj   1      7.119 257.53 -122.807
## - dws_adj    1      7.188 257.60 -122.702

```

```

## - G          1      8.215 258.63 -121.172
## - DBPM       1      8.642 259.06 -120.536
## - OBPM       1      9.687 260.10 -118.986
## - ows_adj    1     10.126 260.54 -118.337
## - Conference 2     14.287 264.70 -114.236
## - Age        1     35.321 285.74 -82.798
##
## Step:  AIC=-133.15
## logsal ~ MP + Age + Conference + USG. + DBPM + orb_adj + BLK. +
##         OBPM + vorp_adj + G + dws_adj + ows_adj + VORP + WS.48
##
##           Df Sum of Sq    RSS      AIC
## - BLK.      1      0.289 250.99 -134.710
## <none>                250.70 -133.154
## + STL.      1      1.103 249.60 -132.852
## + Height    1      1.023 249.68 -132.729
## + AST.      1      0.979 249.72 -132.661
## + ftr_adj   1      0.472 250.23 -131.880
## + stl_adj   1      0.448 250.26 -131.843
## + FTr       1      0.359 250.34 -131.706
## + PER       1      0.297 250.41 -131.611
## + DRtg      1      0.289 250.41 -131.599
## + ORtg      1      0.273 250.43 -131.574
## + DWS       1      0.238 250.47 -131.520
## + blk_adj   1      0.237 250.47 -131.519
## + TOV.      1      0.193 250.51 -131.450
## + International 1      0.144 250.56 -131.376
## + ORB.      1      0.125 250.58 -131.347
## + OWS       1      0.059 250.64 -131.245
## + TRB.      1      0.051 250.65 -131.232
## + X3PAR     1      0.048 250.66 -131.228
## + DRB.      1      0.044 250.66 -131.222
## + PTS       1      0.039 250.66 -131.214
## + gs_adj    1      0.022 250.68 -131.188
## + GS        1      0.003 250.70 -131.159
## + TS.       1      0.002 250.70 -131.158
## - USG.      1      3.113 253.82 -130.403
## + Pos       6      4.910 245.79 -128.769
## - MP        1      6.224 256.93 -125.712
## - VORP      1      6.302 257.00 -125.597
## - dws_adj   1      7.257 257.96 -124.168
## - vorp_adj  1      7.582 258.29 -123.684
## - G         1      8.308 259.01 -122.603
## - orb_adj   1      8.548 259.25 -122.246
## - WS.48     1      9.991 260.69 -120.109
## - DBPM      1     10.696 261.40 -119.069
## - ows_adj   1     11.082 261.79 -118.502
## - Conference 2     14.106 264.81 -116.079
## - OBPM      1     14.273 264.98 -113.837
## - Age       1     36.316 287.02 -83.071
##
## Step:  AIC=-134.71
## logsal ~ MP + Age + Conference + USG. + DBPM + orb_adj + OBPM +
##         vorp_adj + G + dws_adj + ows_adj + VORP + WS.48

```

```
##
##           Df Sum of Sq   RSS       AIC
## <none>                250.99 -134.710
## + AST.             1     1.201 249.79 -134.557
## + Height           1     0.787 250.21 -133.919
## + STL.             1     0.564 250.43 -133.576
## + blk_adj          1     0.511 250.48 -133.494
## + PER              1     0.447 250.55 -133.397
## + ftr_adj          1     0.409 250.58 -133.338
## + FTr              1     0.310 250.68 -133.185
## + BLK.             1     0.289 250.70 -133.154
## + TOV.             1     0.248 250.75 -133.091
## + DWS              1     0.230 250.76 -133.062
## + ORB.             1     0.185 250.81 -132.994
## + ORtg             1     0.174 250.82 -132.976
## + DRtg             1     0.173 250.82 -132.975
## + stl_adj          1     0.172 250.82 -132.975
## + International    1     0.112 250.88 -132.883
## + OWS              1     0.056 250.94 -132.797
## + TRB.             1     0.040 250.95 -132.771
## + TS.              1     0.031 250.96 -132.758
## + PTS              1     0.030 250.96 -132.756
## + DRB.             1     0.023 250.97 -132.746
## + X3PAr            1     0.018 250.97 -132.738
## + gs_adj           1     0.012 250.98 -132.729
## + GS               1     0.001 250.99 -132.711
## - USG.             1     2.824 253.82 -132.403
## + Pos              6     4.306 246.69 -129.372
## - MP               1     5.946 256.94 -127.696
## - VORP             1     6.396 257.39 -127.023
## - vorp_adj         1     7.886 258.88 -124.800
## - orb_adj          1     8.261 259.25 -124.242
## - G                1     8.513 259.51 -123.869
## - dws_adj          1     8.775 259.77 -123.480
## - ows_adj          1    11.347 262.34 -119.688
## - DBPM             1    11.466 262.46 -119.512
## - Conference       2    14.001 264.99 -117.811
## - WS.48            1    13.151 264.14 -117.048
## - OBPM             1    18.393 269.39 -109.483
## - Age              1    36.726 287.72  -84.135
```

Variance Inflation Factors

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

##
## Call:
## lm(formula = logsal ~ ., data = data_regressors)
##
## Residuals:
##      Min       1Q   Median       3Q      Max
## -3.01123 -0.45112  0.01986  0.53385  1.93193
##
```

```

## Coefficients:
##              Estimate Std. Error t value Pr(>|t|)
## (Intercept)   4.4225997   6.8296551    0.648  0.51771
## Age           0.0630723   0.0108876    5.793 1.57e-08 ***
## G            -0.0203828   0.0061556   -3.311  0.00103 **
## GS           -0.0006357   0.0044519   -0.143  0.88654
## gs_adj        0.0165965   0.0752748    0.220  0.82563
## MP            0.0005305   0.0003673    1.445  0.14951
## PER          -0.0174388   0.0784872   -0.222  0.82430
## X3PAr         0.6974562   0.6075721    1.148  0.25180
## FTr           4.1859741   3.5760217    1.171  0.24259
## ftr_adj      -6.1036319   4.9320476   -1.238  0.21674
## ORB.         -0.2008639   0.2006313   -1.001  0.31746
## orb_adj       0.2144035   0.2928215    0.732  0.46455
## DRB.         -0.2363441   0.1966500   -1.202  0.23026
## TRB.          0.4371859   0.3945849    1.108  0.26866
## AST.          0.0181086   0.0156213    1.159  0.24718
## STL.         -0.2181312   0.2047322   -1.065  0.28743
## stl_adj       0.6058089   0.5364506    1.129  0.25957
## BLK.         -0.0063714   0.1047194   -0.061  0.95152
## blk_adj      -0.2721569   0.3076517   -0.885  0.37698
## TOV.          0.0021125   0.0276936    0.076  0.93924
## USG.          0.0617779   0.0422083    1.464  0.14421
## ORtg          0.0220255   0.0249201    0.884  0.37740
## DRtg          0.0288892   0.0539888    0.535  0.59293
## OWS          -0.1233481   0.5093160   -0.242  0.80878
## ows_adj       8.4004018  11.6084572    0.724  0.46978
## DWS          -0.0896228   0.2381367   -0.376  0.70689
## dws_adj       1.2651898   0.7187115    1.760  0.07924 .
## WS.48        -4.9672150   5.4844609   -0.906  0.36574
## OBPM          0.1282551   0.1092672    1.174  0.24130
## DBPM          0.2533772   0.0860760    2.944  0.00347 **
## VORP         -0.2712728   0.1809745   -1.499  0.13481
## vorp_adj     -0.7052569   0.2948591   -2.392  0.01731 *
## PosC-F        0.2750336   0.3458740    0.795  0.42706
## PosF         -0.1731032   0.2057598   -0.841  0.40078
## PosF-C        0.0093911   0.2310966    0.041  0.96761
## PosF-G       -0.3437900   0.3114840   -1.104  0.27049
## PosG         -0.6538078   0.3138647   -2.083  0.03799 *
## PosG-F       -0.4935578   0.2866025   -1.722  0.08596 .
## Height        0.0037293   0.0313987    0.119  0.90553
## PTS           0.0001479   0.0005863    0.252  0.80099
## TS.          -0.9776647   3.2686250   -0.299  0.76504
## InternationalYes -0.0470952   0.1147774   -0.410  0.68183
## ConferenceMulti -0.6674140   0.1595178   -4.184 3.65e-05 ***
## ConferenceWest -0.0894918   0.1003389   -0.892  0.37308
## ---
## Signif. codes:  0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1
##
## Residual standard error: 0.8305 on 341 degrees of freedom
## Multiple R-squared:  0.5773, Adjusted R-squared:  0.524
## F-statistic: 10.83 on 43 and 341 DF,  p-value: < 2.2e-16

```



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

```
##      Age      G      GS      gs_adj      MP
##  1.137917  3.243957  3.139664  2.860245  7.115969
##      PER      X3PAr      FTr      ftr_adj      ORB.
##  9.340467  2.810743  13.073063  13.224638  18.340182
##  orb_adj      DRB.      TRB.      AST.      STL.
##  4.519097  27.029354  41.691431  3.399435  3.972902
##  stl_adj      BLK.      blk_adj      TOV.      USG.
##  3.690208  4.093339  3.718703  3.134092  4.975736
##      ORtg      DRtg      OWS      ows_adj      DWS
##  6.711468  5.000730  25.032131  24.153697  6.408014
##  dws_adj      WS.48      OBPM      DBPM      VORP
##  7.852270  9.454555  7.055519  4.132293  6.142057
##  vorp_adj      Pos      Height      PTS      TS.
##  4.199518  1.253044  2.572141  6.407896  4.792302
## International Conference
##  1.147682  1.108974
```

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

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