

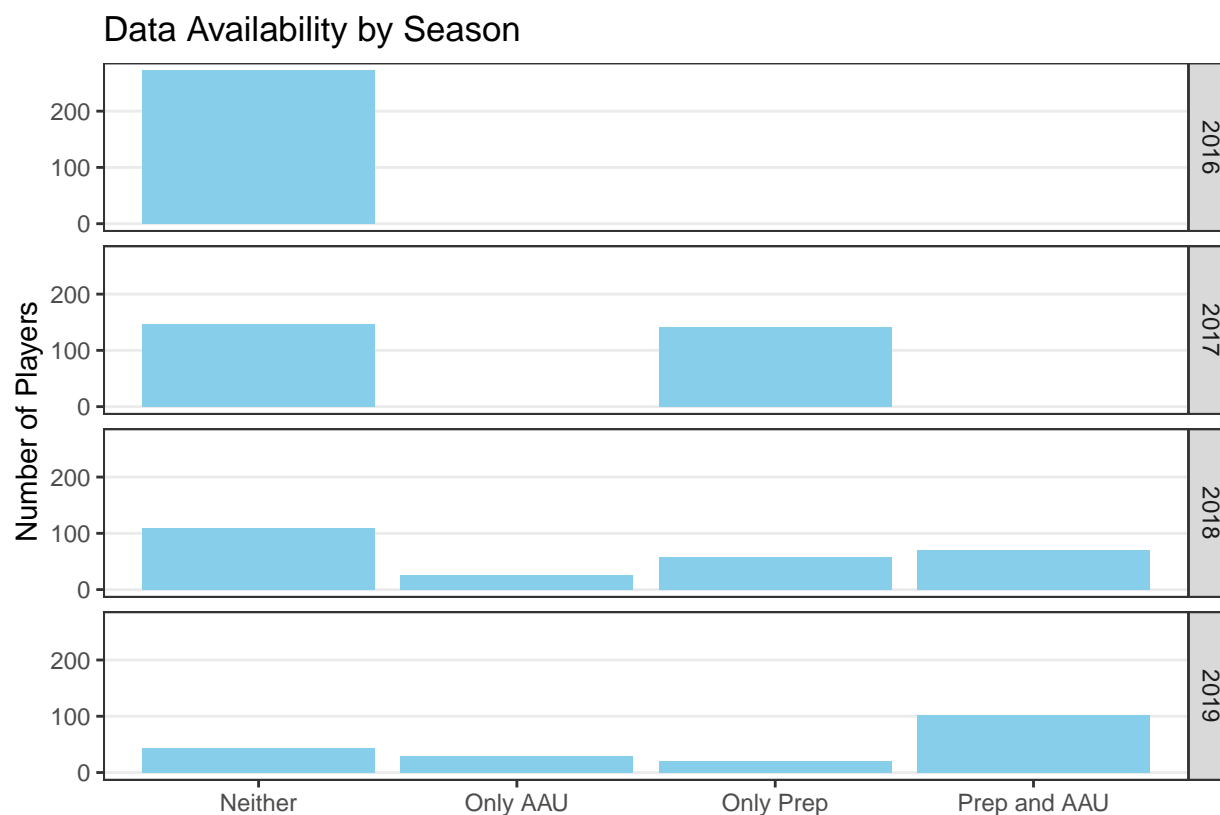
Prep Circuit and AAU EDA, Basic Regression, and PCA

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Data Availability by Season

Season	Neither	Only AAU	Only Prep	Prep and AAU
2016	272	0	0	0
2017	147	0	141	0
2018	110	25	58	71
2019	44	29	20	103

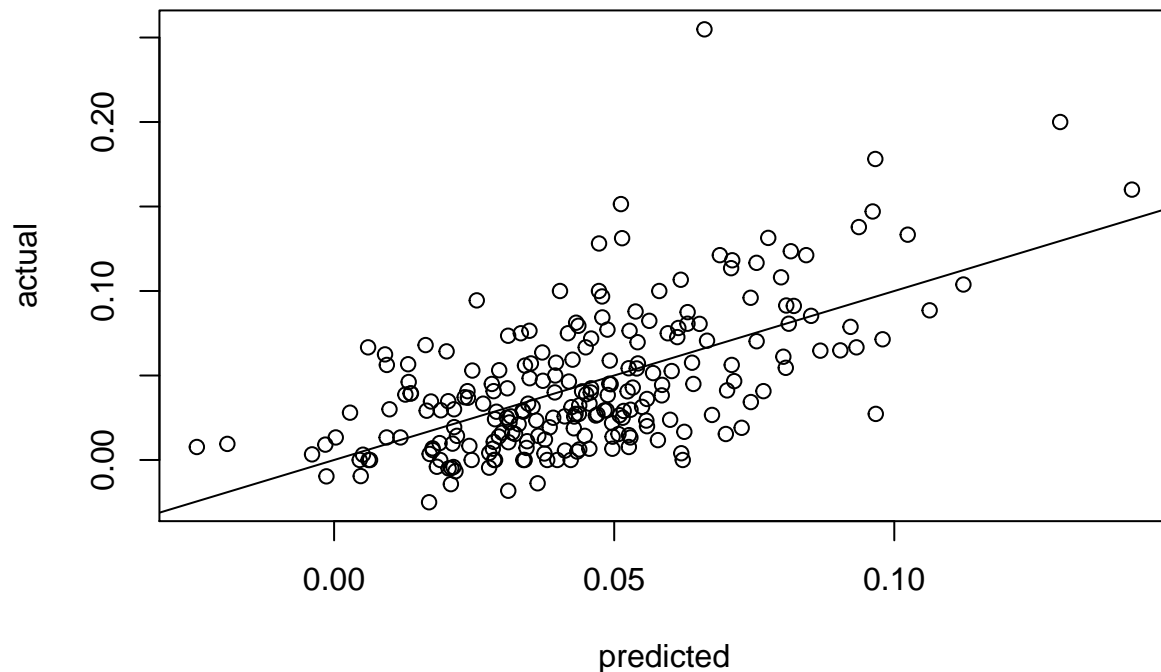


AAU Leave One Out CV Linear Regression (Predicting Win Shares Per Game)

##

Call:

```
## lm(formula = .outcome ~ ., data = dat)
##
## Residuals:
##      Min       1Q   Median       3Q      Max
## -0.069423 -0.023266 -0.005813  0.019037  0.188728
##
## Coefficients:
##              Estimate Std. Error t value Pr(>|t|)
## (Intercept)    0.0168440  0.1114254   0.151  0.87999
## Points.PerGame.AAU    0.0013295  0.0007297   1.822  0.06984 .
## Minutes.PerGame.AAU  -0.0014438  0.0004922  -2.934  0.00371 **
## Max.Points.AAU      0.0000999  0.0004978   0.201  0.84115
## Rebounds.PerGame.AAU  0.0048134  0.0017763   2.710  0.00728 **
## Blocks.PerGame.AAU   0.0140821  0.0059976   2.348  0.01979 *
## Steals.PerGame.AAU   0.0177185  0.0056601   3.130  0.00199 **
## Turnovers.PerGame.AAU 0.0043199  0.0039444   1.095  0.27466
## GamesPlayed.AAU      0.0004219  0.0006351   0.664  0.50722
## Position          -0.0003133  0.0025996  -0.121  0.90419
## Position.BasicF     -0.0212340  0.0099644  -2.131  0.03423 *
## Position.BasicG     -0.0052901  0.0149782  -0.353  0.72429
## Height             -0.0002136  0.0013684  -0.156  0.87613
## ---
## Signif. codes:  0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1
##
## Residual standard error: 0.0339 on 214 degrees of freedom
## Multiple R-squared:  0.3732, Adjusted R-squared:  0.338
## F-statistic: 10.62 on 12 and 214 DF, p-value: < 2.2e-16
```



Prep Leave One Out CV Linear Regression (Predicting Win Shares Per Game)

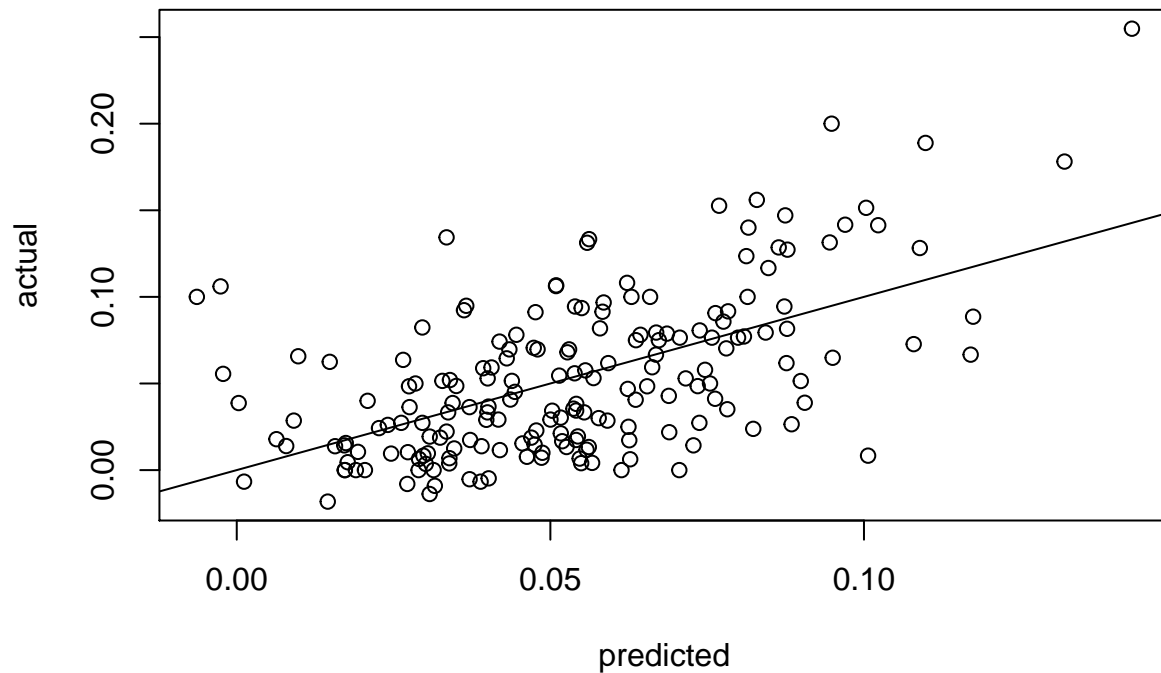
```
##
## Call:
## lm(formula = .outcome ~ ., data = dat)
##
## Residuals:
```

	Min	1Q	Median	3Q	Max
	-0.092322	-0.027707	-0.003468	0.020923	0.112115

```
##
## Coefficients:
```

	Estimate	Std. Error	t value	Pr(> t)
(Intercept)	-1.524e-01	1.295e-01	-1.177	0.240636
Points.PerGame.Prep	4.400e-03	1.032e-03	4.264	3.28e-05 ***
Minutes.PerGame.Prep	-1.291e-05	3.199e-04	-0.040	0.967855
Max.Points.Prep	-1.121e-03	6.862e-04	-1.634	0.104055
Rebounds.PerGame.Prep	-2.076e-03	1.521e-03	-1.365	0.174023
Blocks.PerGame.Prep	8.586e-03	2.875e-03	2.986	0.003225 **
Steals.PerGame.Prep	6.167e-03	3.607e-03	1.710	0.089111 .
Turnovers.PerGame.Prep	-1.624e-03	3.358e-03	-0.484	0.629164
GamesPlayed.Prep	1.531e-03	4.517e-04	3.390	0.000863 ***
Position	-3.610e-03	3.411e-03	-1.059	0.291267
Position.BasicF	3.908e-03	1.294e-02	0.302	0.762981
Position.BasicG	9.271e-03	1.852e-02	0.500	0.617351

```
## Height          1.912e-03  1.609e-03  1.188 0.236474
## ---
## Signif. codes:  0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1
##
## Residual standard error: 0.03904 on 176 degrees of freedom
## Multiple R-squared:  0.3356, Adjusted R-squared:  0.2903
## F-statistic: 7.409 on 12 and 176 DF,  p-value: 5.862e-11
```



AAU PCA

	PC1	PC2	PC3	PC4
## ws.per.game	-0.27162190	-0.223418571	0.31590953	0.217779125
## Points.PerGame.AAU	-0.46039074	-0.043773391	-0.24942617	0.349402073
## Minutes.PerGame.AAU	-0.39180662	-0.098574754	-0.28620332	-0.312513525
## Max.Points.AAU	-0.44243502	-0.003810732	-0.23507987	0.434969378
## Rebounds.PerGame.AAU	-0.18309817	-0.492991252	0.15704839	-0.017983493
## Blocks.PerGame.AAU	0.02915627	-0.524016284	0.07818237	0.001841191
## Steals.PerGame.AAU	-0.36178531	0.139524168	0.26746106	-0.395062949
## Turnovers.PerGame.AAU	-0.36889358	-0.031187501	0.25793304	-0.456838277
## GamesPlayed.AAU	-0.02130980	0.106402866	0.70999061	0.391130984
## Position	-0.18593167	0.390346844	-0.07370089	0.146527493
## Height	0.16920380	-0.486488649	-0.14984270	0.063803515
	PC5	PC6	PC7	PC8
## ws.per.game	-0.75943396	0.01610379	0.15508216	-0.27537714
## Points.PerGame.AAU	0.05889351	0.12426431	0.02492986	0.18229270

## Minutes.PerGame.AAU	0.24803686	0.14159399	-0.24737516	-0.49394243
## Max.Points.AAU	0.10641562	0.14028445	0.03364737	0.15372822
## Rebounds.PerGame.AAU	0.19982008	-0.22105976	-0.02992944	0.18943212
## Blocks.PerGame.AAU	0.06399937	-0.18900091	-0.36282625	-0.36395682
## Steals.PerGame.AAU	-0.20902961	-0.05506519	-0.53290159	0.50977020
## Turnovers.PerGame.AAU	0.19922015	-0.04693533	0.67549098	-0.03022666
## GamesPlayed.AAU	0.46398470	0.09242620	-0.11378448	-0.08063529
## Position	0.01666689	-0.86656672	-0.01514877	-0.18297145
## Height	0.06308273	-0.30865211	0.16435993	0.39270384
##	PC9	PC10	PC11	
## ws.per.game	0.22041409	0.054973716	0.024337341	
## Points.PerGame.AAU	-0.11381756	-0.002985505	-0.732190884	
## Minutes.PerGame.AAU	0.49372258	0.159388832	0.035805387	
## Max.Points.AAU	-0.21395593	0.091255025	0.670747855	
## Rebounds.PerGame.AAU	0.20185882	-0.725200075	0.078798286	
## Blocks.PerGame.AAU	-0.61496204	0.184531208	-0.047813984	
## Steals.PerGame.AAU	-0.04698548	0.168598515	0.028737156	
## Turnovers.PerGame.AAU	-0.26198516	0.141119223	-0.008369047	
## GamesPlayed.AAU	0.20180064	0.210998787	-0.051350440	
## Position	0.03313621	-0.008113056	-0.008312947	
## Height	0.34253964	0.557084714	0.004723086	

Prep PCA

##	PC1	PC2	PC3	PC4
## ws.per.game	-0.28022124	0.30869306	0.0874480006	-0.20405402
## Points.PerGame.Prep	-0.46668315	0.18495767	0.1499715051	0.42677992
## Minutes.PerGame.Prep	0.17317860	-0.12523038	0.6002696740	-0.13454925
## Max.Points.Prep	-0.51480807	0.14710547	0.0721263328	0.23685441
## Rebounds.PerGame.Prep	-0.01007801	0.52409506	0.1986209979	0.17417206
## Blocks.PerGame.Prep	0.14789701	0.49100099	0.0167033550	-0.09120851
## Steals.PerGame.Prep	-0.28052986	-0.05788177	0.3416243230	-0.49092121
## Turnovers.PerGame.Prep	0.13804704	-0.10863854	0.6615861658	0.13480853
## GamesPlayed.Prep	-0.32129199	0.09793814	-0.1009938364	-0.62155523
## Position	-0.29114778	-0.36248879	0.0009714833	0.12014952
## Height	0.31771067	0.40159227	-0.0014390634	-0.05846927
##	PC5	PC6	PC7	PC8
## ws.per.game	0.29531238	0.76947605	-0.04457662	0.25000745
## Points.PerGame.Prep	0.03778604	-0.01892114	-0.10673423	-0.12613461
## Minutes.PerGame.Prep	-0.32760897	0.28277814	-0.08095006	-0.50184699
## Max.Points.Prep	-0.11244344	-0.11727147	-0.14280309	-0.12258484
## Rebounds.PerGame.Prep	-0.17779252	-0.29956640	0.05866847	0.05591974
## Blocks.PerGame.Prep	-0.09086313	0.07207859	0.64888023	-0.27511375
## Steals.PerGame.Prep	0.48205463	-0.42545886	0.27366170	0.04455117
## Turnovers.PerGame.Prep	-0.01255155	-0.05022126	-0.10083728	0.43773165
## GamesPlayed.Prep	-0.53384307	-0.10785138	-0.28463573	0.03833253
## Position	-0.45153509	0.13342886	0.58989354	0.38592657
## Height	-0.17354767	-0.07697124	-0.14538497	0.48155145
##	PC9	PC10	PC11	
## ws.per.game	0.007621131	0.159163769	0.087833173	
## Points.PerGame.Prep	0.104274723	-0.148083087	-0.693884142	
## Minutes.PerGame.Prep	0.359376324	0.020954892	0.024788375	
## Max.Points.Prep	0.029301090	-0.371615472	0.671757324	

## Rebounds.PerGame.Prep	0.035368933	0.713919135	0.128786218
## Blocks.PerGame.Prep	-0.316332872	-0.339711591	-0.052834601
## Steals.PerGame.Prep	0.261912825	-0.030319375	-0.021374260
## Turnovers.PerGame.Prep	-0.532733249	-0.158044722	-0.005600825
## GamesPlayed.Prep	-0.273884709	-0.006483995	-0.191015225
## Position	0.207654573	0.087554637	-0.003296423
## Height	0.535915161	-0.394349307	-0.050739235