

Selection

Derek Corcoran

February 13, 2017

For many years biologists and evolutionary biologists have been able to measure the direction and strength of natural selection (Lande 1979; Lande and Arnold 1983; Arnold and Wade 1984a, 1984b). To our knowledge this methods have not been applied to measure how coaches and/or general managers reward players. In the case of coaches, arguably, the only way they can reward players is with minutes played each game (minutes per game *MPG*)

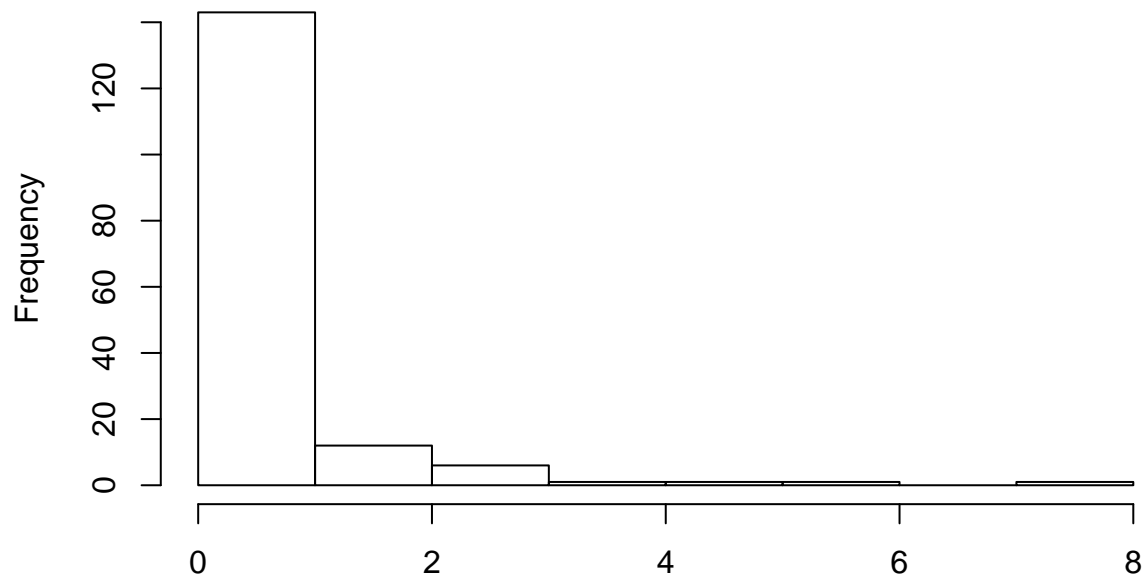
You can also embed plots, for example:

```
## [1] "Rk"      "Player" "Season" "Age"      "Tm"      "Lg"      "WS"
## [8] "G"       "GS"      "MP"      "FG"      "FGA"     "2P"      "2PA"
## [15] "3P"      "3PA"     "FT"      "FTA"     "ORB"     "DRB"     "TRB"
## [22] "AST"     "STL"     "BLK"     "TOV"     "PF"      "PTS"     "FG%"
## [29] "2P%"     "3P%"     "eFG%"    "FT%"     "TS%"

##      Rk      Player      Season      Age
## Rk      : 289   Player      : 289   Season : 289   Min.    :18.00
## 1       : 1     John Stockton: 18   2016-17: 278   1st Qu.:24.00
## 10      : 1     Karl Malone  : 18   2015-16: 271   Median  :26.00
## 100     : 1     Kobe Bryant : 18   2014-15: 267   Mean    :26.85
## 11      : 1     Vince Carter: 18   2013-14: 259   3rd Qu.:29.00
## 12      : 1     Dirk Nowitzki: 17   2007-08: 201   Max.    :42.00
## (Other):7221   (Other)      :7137   (Other):5950   NA's    :289
##      Tm      Lg      WS      G
## TOT      : 470   Lg : 289   Min.    :-2.100   Min.    :39.00
## Tm       : 289   NBA:7226   1st Qu.: 2.400   1st Qu.:73.00
## UTA      : 286           Median : 4.100   Median :78.00
## IND      : 278           Mean    : 4.745   Mean    :74.99
## LAL      : 270           3rd Qu.: 6.400   3rd Qu.:81.00
## SAS      : 269           Max.    :21.200   Max.    :85.00
## (Other):5653           NA's    :289     NA's    :289
##      GS      MP      FG      FGA
## Min.    : 0.00   Min.    : 368   Min.    : 1.200   Min.    : 3.20
## 1st Qu.:13.00   1st Qu.:1534   1st Qu.: 6.500   1st Qu.:14.10
## Median :50.00   Median :2059   Median : 7.900   Median :17.10
## Mean    :45.43   Mean    :2042   Mean    : 8.034   Mean    :17.25
## 3rd Qu.:76.00   3rd Qu.:2575   3rd Qu.: 9.500   3rd Qu.:20.30
## Max.    :83.00   Max.    :3533   Max.    :16.800   Max.    :35.00
## NA's    :610    NA's    :289    NA's    :289    NA's    :289
##      2P      2PA      3P      3PA
## Min.    : 0.500   Min.    : 1.4   Min.    :0.0000   Min.    : 0.000
## 1st Qu.: 5.300   1st Qu.:11.1   1st Qu.:0.0000   1st Qu.: 0.100
## Median : 6.900   Median :14.3   Median :0.3000   Median : 1.200
## Mean    : 7.065   Mean    :14.5   Mean    :0.9674   Mean    : 2.741
## 3rd Qu.: 8.700   3rd Qu.:17.7   3rd Qu.:1.8000   3rd Qu.: 5.000
## Max.    :16.600   Max.    :33.8   Max.    :7.2000   Max.    :16.400
## NA's    :289    NA's    :289    NA's    :289    NA's    :289
##      FT      FTA      ORB      DRB
```

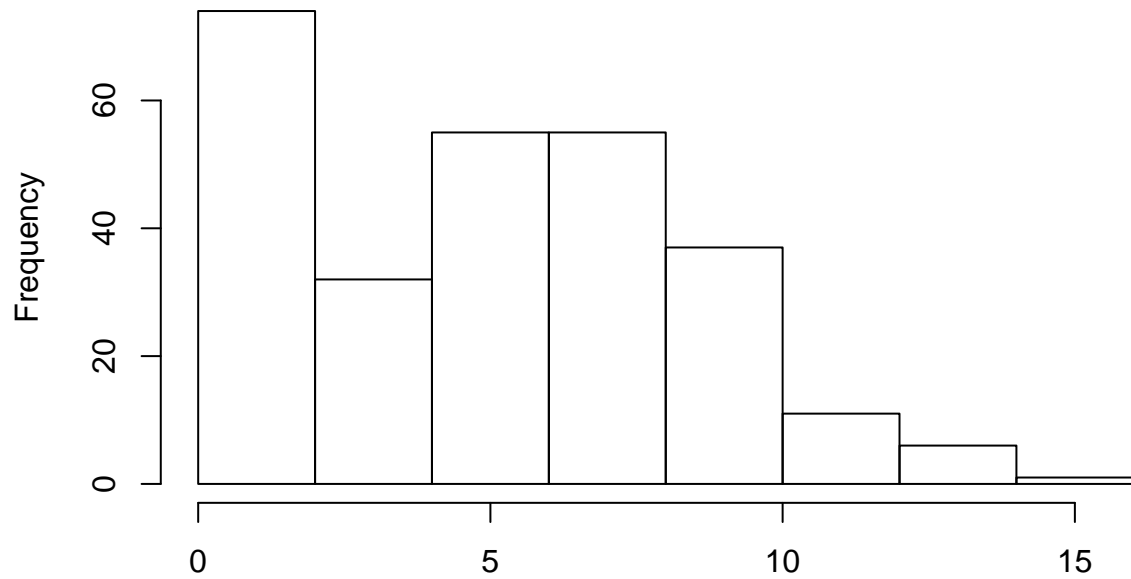
##	Min.	: 0.300	Min.	: 0.500	Min.	:0.100	Min.	: 1.30
##	1st Qu.:	2.600	1st Qu.:	3.600	1st Qu.:	1.200	1st Qu.:	4.20
##	Median	: 3.700	Median	: 5.000	Median	:2.400	Median	: 5.90
##	Mean	: 4.037	Mean	: 5.354	Mean	:2.678	Mean	: 6.34
##	3rd Qu.:	5.100	3rd Qu.:	6.700	3rd Qu.:	3.900	3rd Qu.:	8.30
##	Max.	:12.700	Max.	:17.400	Max.	:9.700	Max.	:17.30
##	NA's	:289	NA's	:289	NA's	:289	NA's	:289
##	TRB		AST		STL		BLK	
##	Min.	: 2.100	Min.	: 0.300	Min.	:0.200	Min.	:0.000
##	1st Qu.:	5.500	1st Qu.:	2.500	1st Qu.:	1.200	1st Qu.:	0.400
##	Median	: 8.300	Median	: 3.800	Median	:1.600	Median	:0.700
##	Mean	: 9.018	Mean	: 4.705	Mean	:1.683	Mean	:1.091
##	3rd Qu.:	12.100	3rd Qu.:	6.200	3rd Qu.:	2.100	3rd Qu.:	1.400
##	Max.	:24.400	Max.	:19.400	Max.	:5.800	Max.	:9.300
##	NA's	:289	NA's	:289	NA's	:289	NA's	:289
##	TOV		PF		PTS		FG%	
##	Min.	:0.400	Min.	: 1.400	Min.	: 3.10	Min.	:0.2830
##	1st Qu.:	2.400	1st Qu.:	3.600	1st Qu.:	16.90	1st Qu.:	0.4320
##	Median	:3.000	Median	: 4.500	Median	:20.60	Median	:0.4630
##	Mean	:3.088	Mean	: 4.738	Mean	:21.07	Mean	:0.4671
##	3rd Qu.:	3.700	3rd Qu.:	5.600	3rd Qu.:	24.80	3rd Qu.:	0.4970
##	Max.	:7.800	Max.	:11.500	Max.	:46.40	Max.	:0.7360
##	NA's	:289	NA's	:289	NA's	:289	NA's	:289
##	2P%		3P%		eFG%		FT%	
##	Min.	:0.2790	Min.	:0.0000	Min.	:0.3050	Min.	:0.2400
##	1st Qu.:	0.4560	1st Qu.:	0.1520	1st Qu.:	0.4660	1st Qu.:	0.7020
##	Median	:0.4830	Median	:0.3070	Median	:0.4920	Median	:0.7650
##	Mean	:0.4854	Mean	:0.2562	Mean	:0.4945	Mean	:0.7506
##	3rd Qu.:	0.5120	3rd Qu.:	0.3658	3rd Qu.:	0.5200	3rd Qu.:	0.8170
##	Max.	:0.7360	Max.	:1.0000	Max.	:0.7360	Max.	:1.0000
##	NA's	:289	NA's	:825	NA's	:289	NA's	:289
##	TS%							
##	Min.	:0.3520						
##	1st Qu.:	0.5090						
##	Median	:0.5350						
##	Mean	:0.5363						
##	3rd Qu.:	0.5630						
##	Max.	:0.7300						
##	NA's	:289						

Histogram of `dplyr::filter(NS, Season == "1979-80")[, 16]`



`dplyr::filter(NS, Season == "1979-80")[, 16]`

Histogram of `dplyr::filter(NS, Season == "2015-16")[, 16]`



`dplyr::filter(NS, Season == "2015-16")[, 16]`