

R Plotting: ggpubr

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```
# install.packages("ggpubr")
# From Github
# if(!require(devtools)) install.packages("devtools") devtools::install_github("kass
ambara/ggpubr")
library(ggpubr)
```

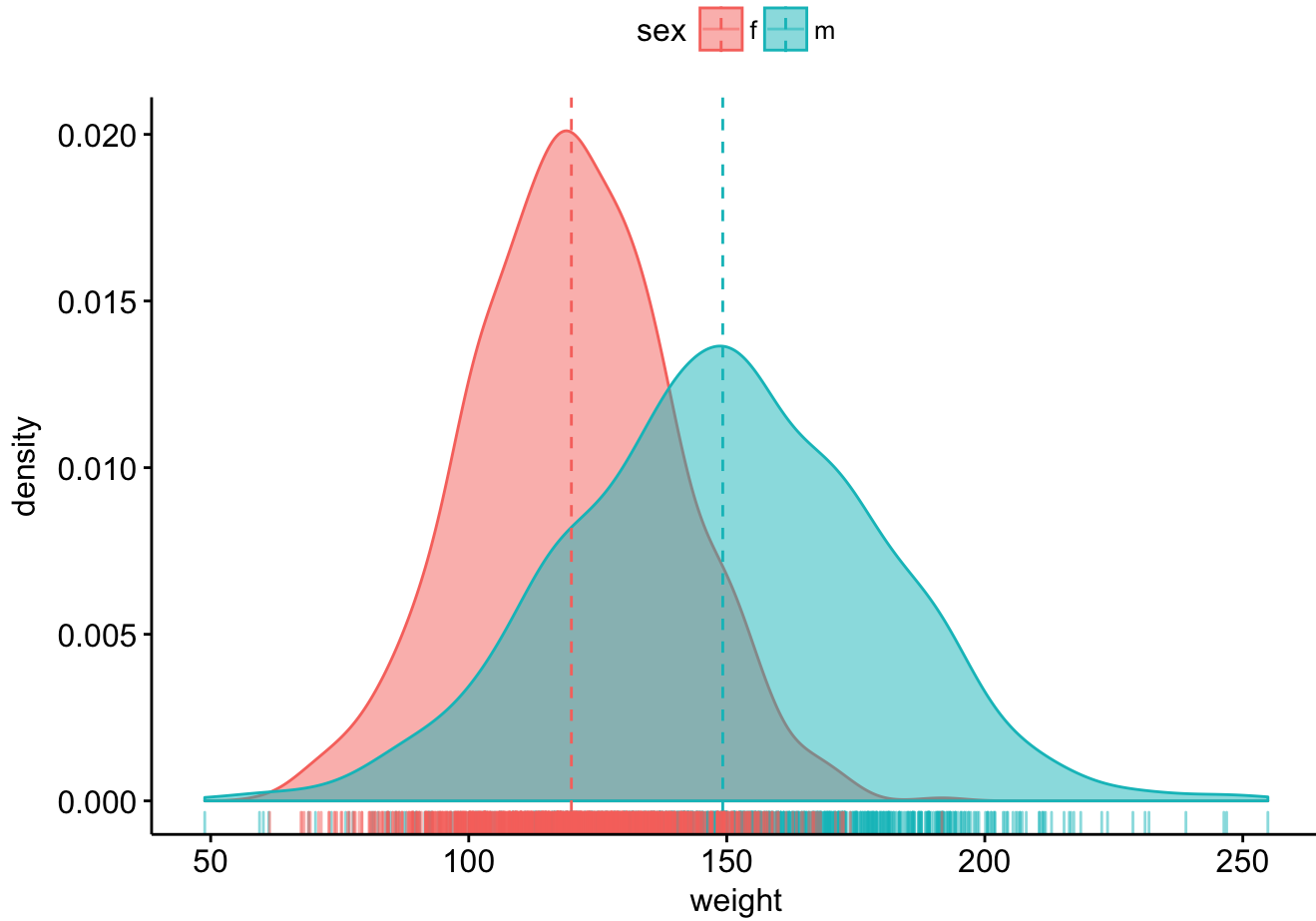
```
## Loading required package: ggplot2
```

```
## Loading required package: magrittr
```

```
# Load Data
set.seed(42)
df <- data.frame(sex=factor(rep(c('m', 'f'), each=1000)), weight=c(rnorm(1000,150,30
), rnorm(1000,120,20)))
head(df)
```

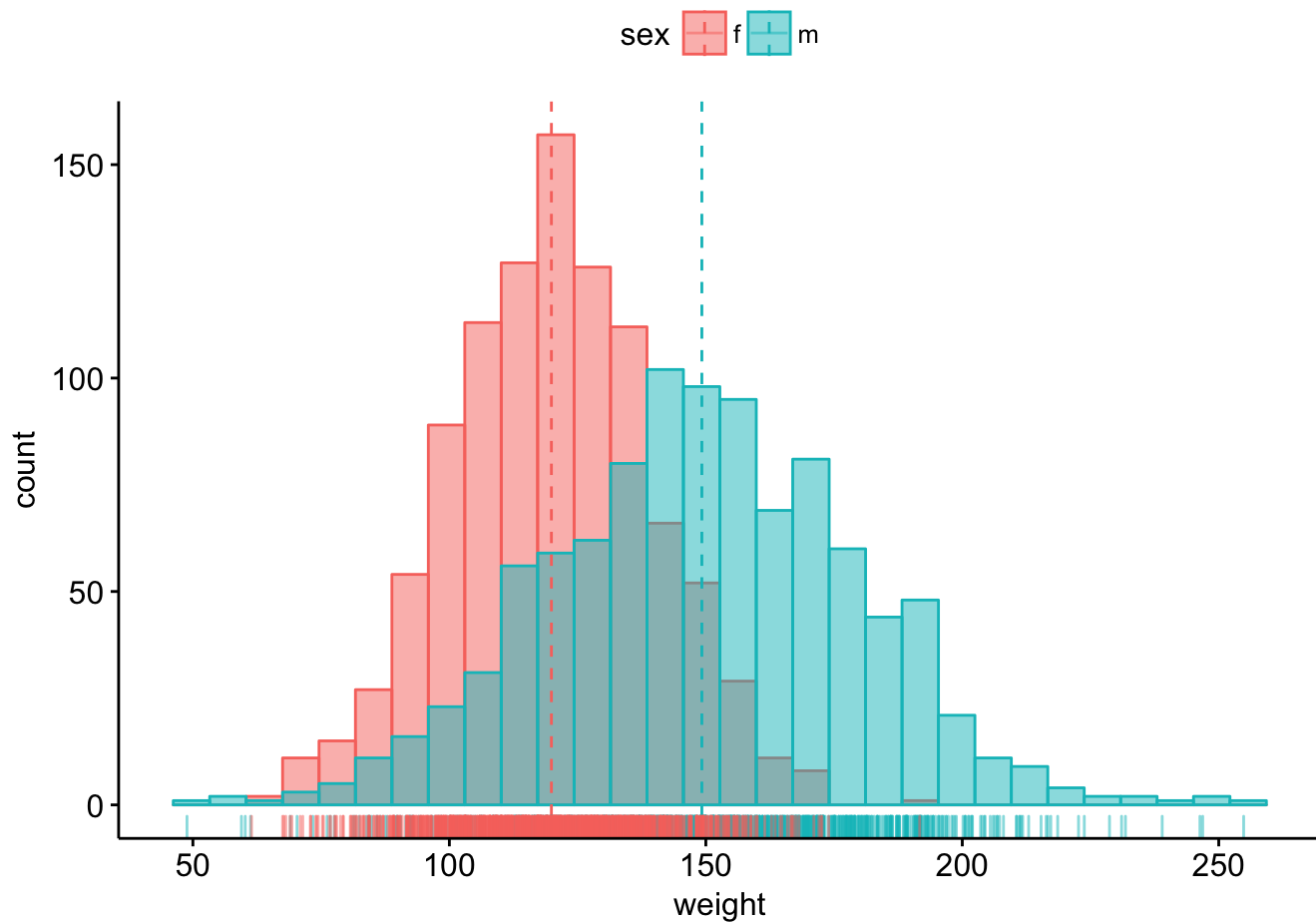
```
##      sex weight
## 1    m   191.1
## 2    m   133.1
## 3    m   160.9
## 4    m   169.0
## 5    m   162.1
## 6    m   146.8
```

```
# Density Distribution Plot
ggdensity(df, x='weight', add='mean', rug=T, color = 'sex', fill='sex',
           palette=c('#00AFBB', '#E7B800'))
```



```
# Histogram
gghistogram(df, x='weight', add='mean', rug=T, color='sex', fill='sex',
            palette=c('#00AFBB', '#E7B800'))
```

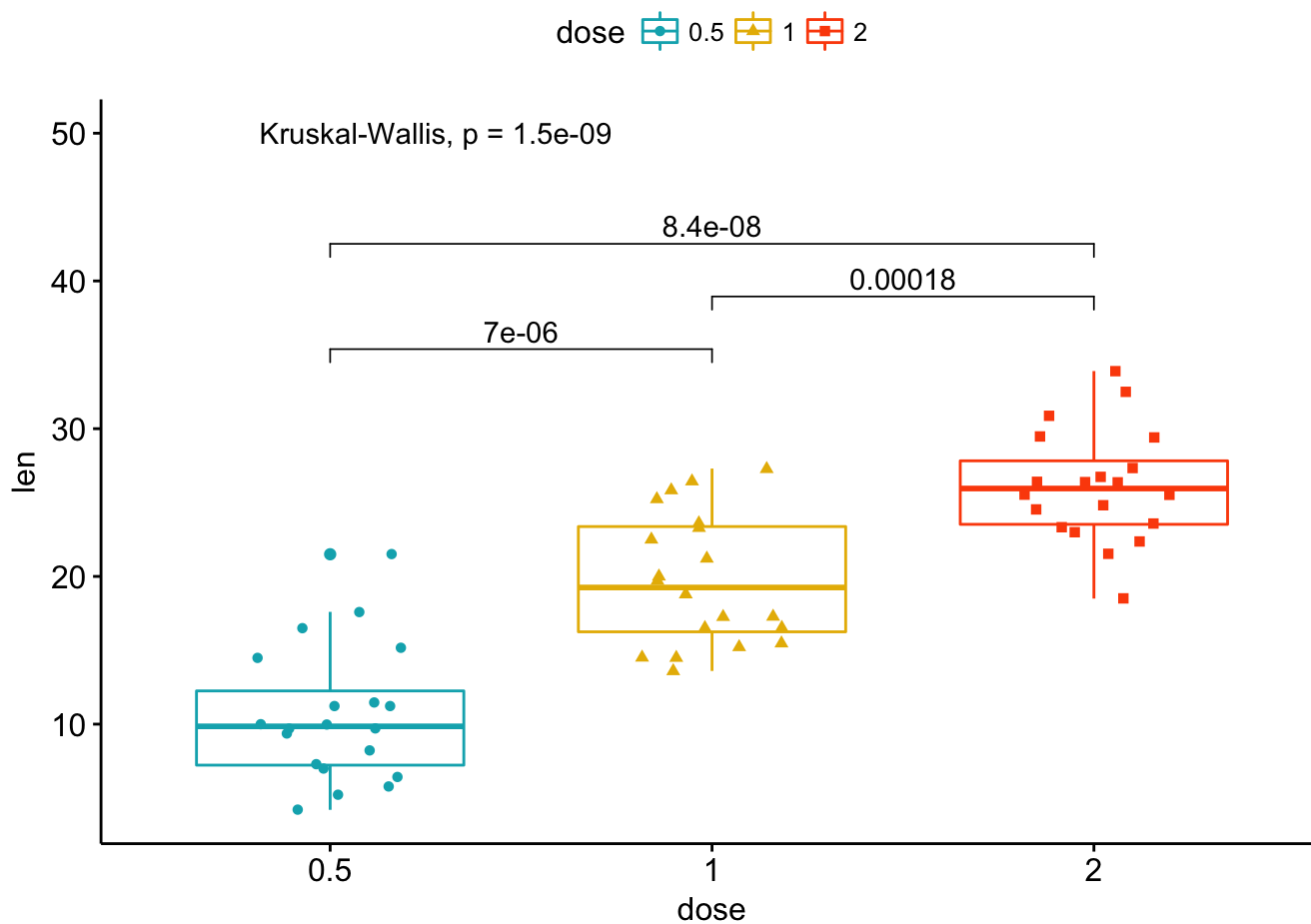
```
## Warning: Using `bins = 30` by default. Pick better value with the argument
## `bins`.
```



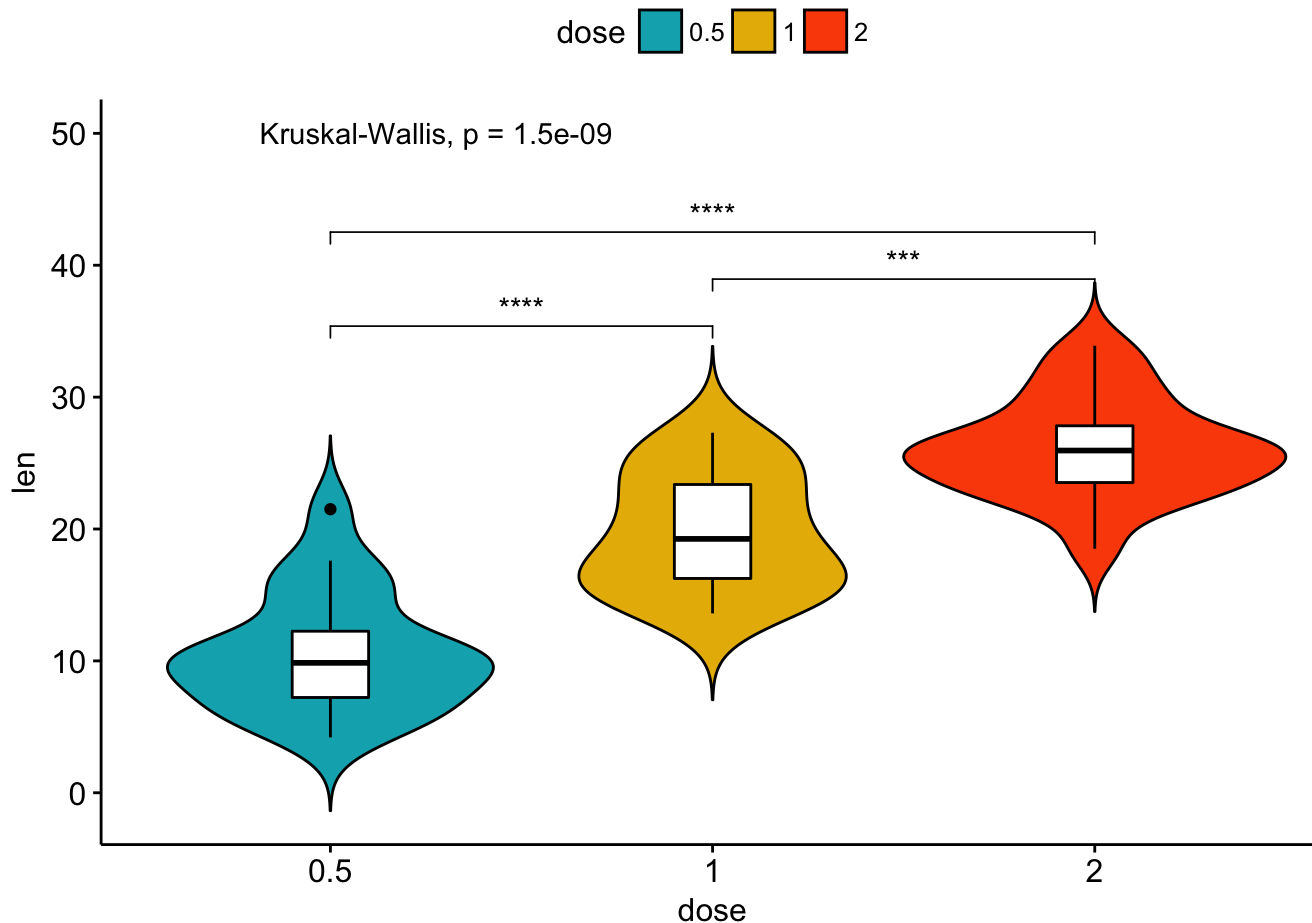
```
data('ToothGrowth')
df2 <- ToothGrowth
head(df2)
```

```
##      len supp dose
## 1   4.2   VC  0.5
## 2  11.5   VC  0.5
## 3   7.3   VC  0.5
## 4   5.8   VC  0.5
## 5   6.4   VC  0.5
## 6  10.0   VC  0.5
```

```
# Boxplot
p <- ggboxplot(df2, x='dose', y='len', color='dose', add='jitter', shape='dose',
               palette=c('#00AFBB', '#E7B800', '#FC4E07'))
compar <- list(c('0.5', '1'), c('1', '2'), c('0.5', '2'))
p + stat_compare_means(comparisons = compar) + stat_compare_means(label.y=50)
```



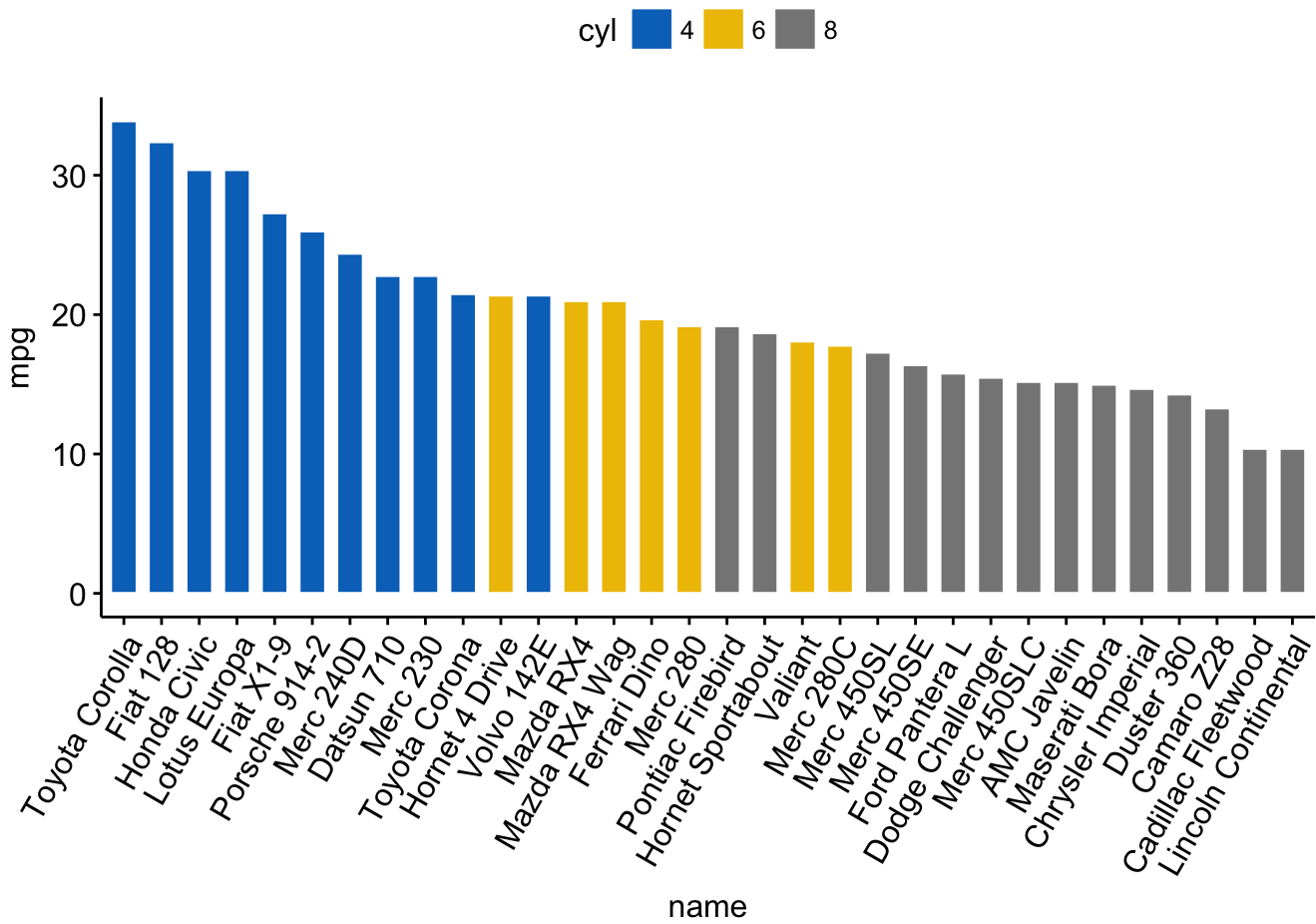
```
# Violin
p <- ggviolin(df2, x='dose', y='len', fill='dose', add='boxplot', add.params=list(fill='white'),
              palette=c('#00AFBB', '#E7B800', '#FC4E07'))
p + stat_compare_means(comparisons=compar, label='p.signif') + stat_compare_means(label.y=50)
```



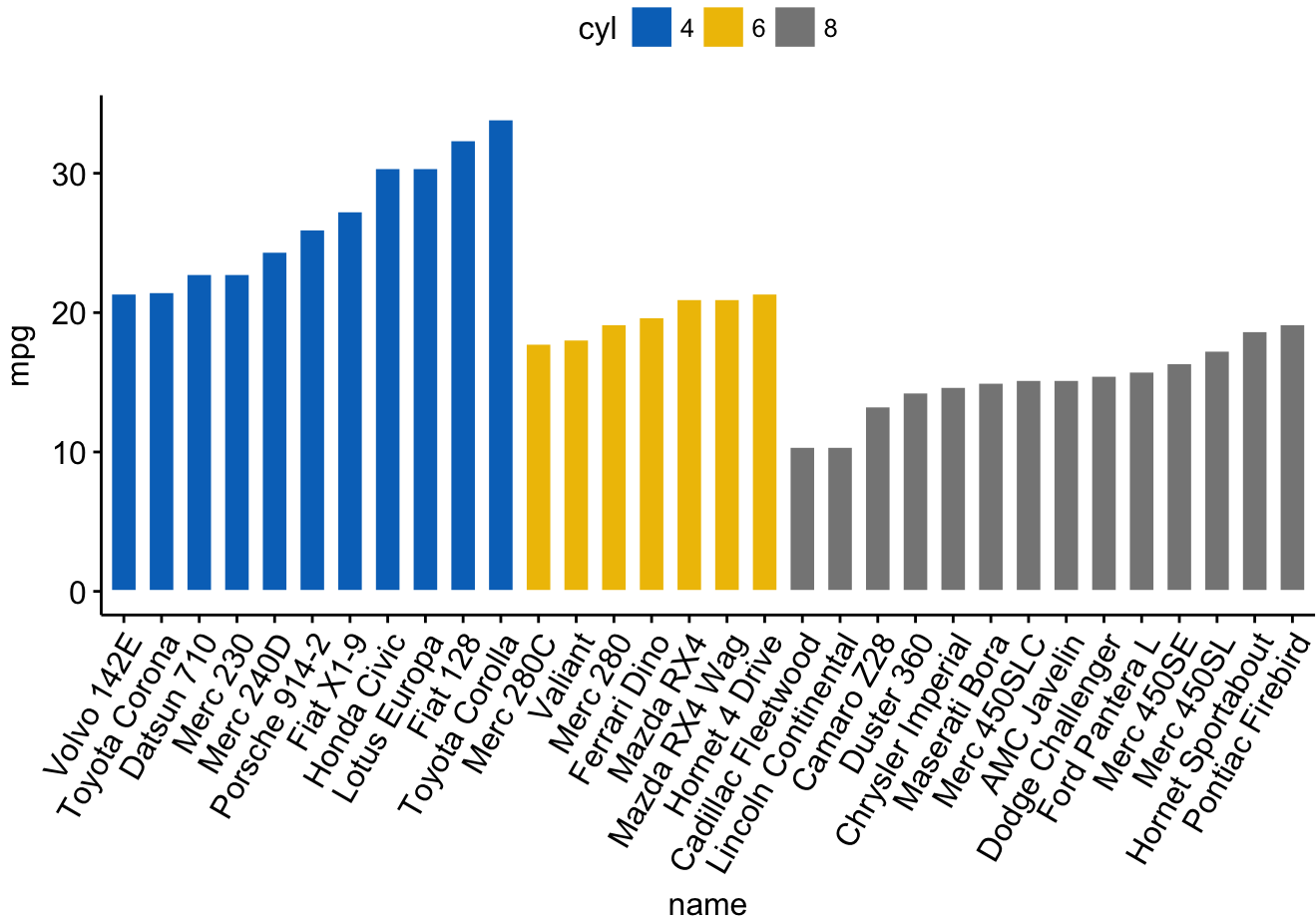
```
data('mtcars')
df3 <- mtcars
df3$cyl <- factor(df3$cyl)
df3$name <- rownames(df3)
head(df3[, c('name', 'wt', 'mpg', 'cyl')])
```

```
##           name    wt  mpg  cyl
## Mazda RX4      Mazda RX4 2.620 21.0   6
## Mazda RX4 Wag  Mazda RX4 Wag 2.875 21.0   6
## Datsun 710      Datsun 710 2.320 22.8   4
## Hornet 4 Drive  Hornet 4 Drive 3.215 21.4   6
## Hornet Sportabout Hornet Sportabout 3.440 18.7   8
## Valiant        Valiant 3.460 18.1   6
```

```
# Barplot
ggbarplot(df3, x='name', y='mpg', fill='cyl', color='white',
          palette='jco', sort.val='desc', sort.by.groups=F, x.text.angle=60)
```



```
ggbarplot(df3, x='name', y='mpg', fill='cyl', color='white',
          palette='jco', sort.val='asc', sort.by.groups=T, x.text.angle=60)
```

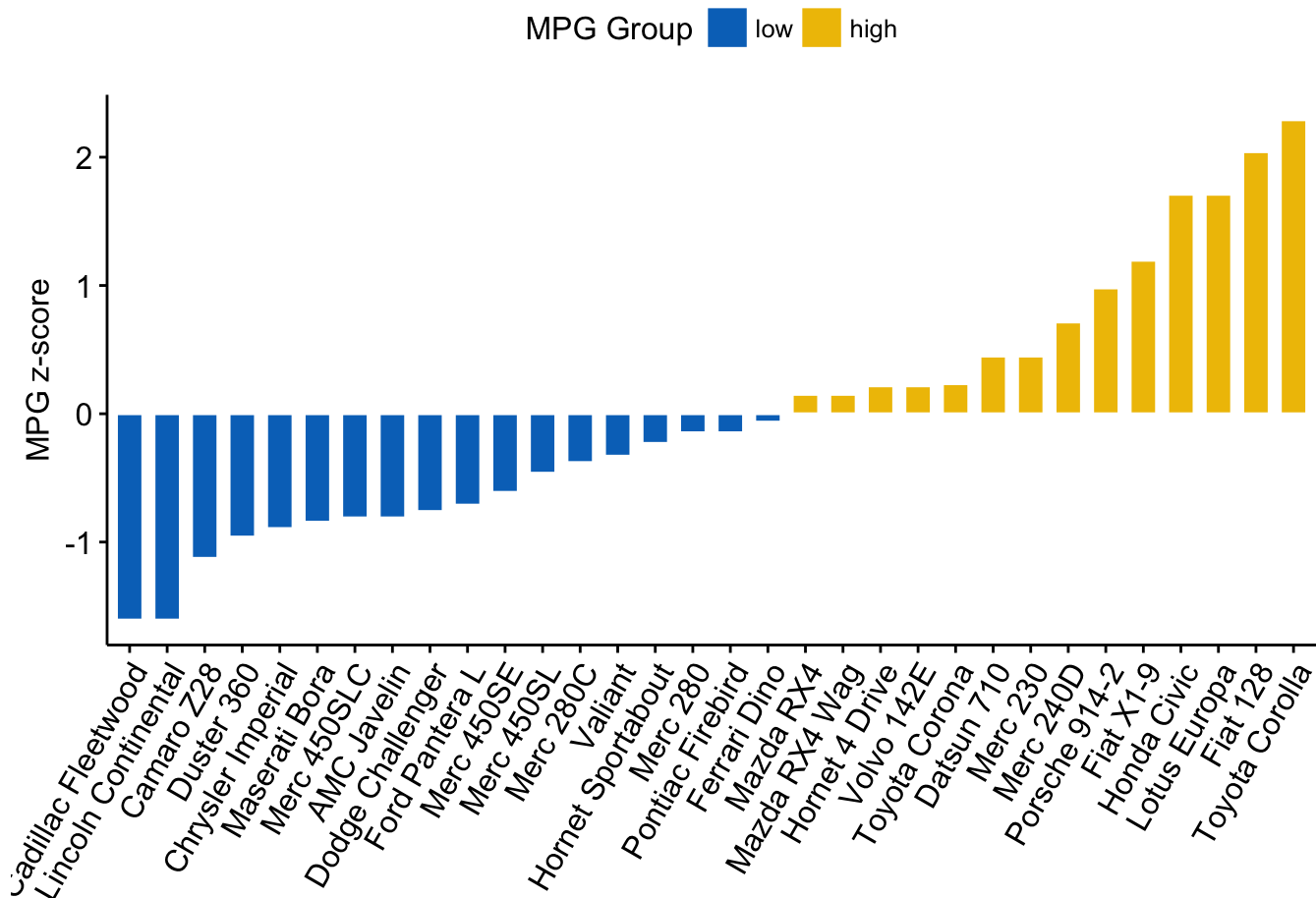


偏差图

```
df3$mpg_z <- (df3$mpg - mean(df3$mpg))/sd(df3$mpg)
df3$mpg_grp <- factor(ifelse(df3$mpg_z < 0, 'low', 'high'), levels=c('low', 'high'))
head(df3[,c('name', 'wt', 'mpg', 'mpg_grp', 'cyl')])
```

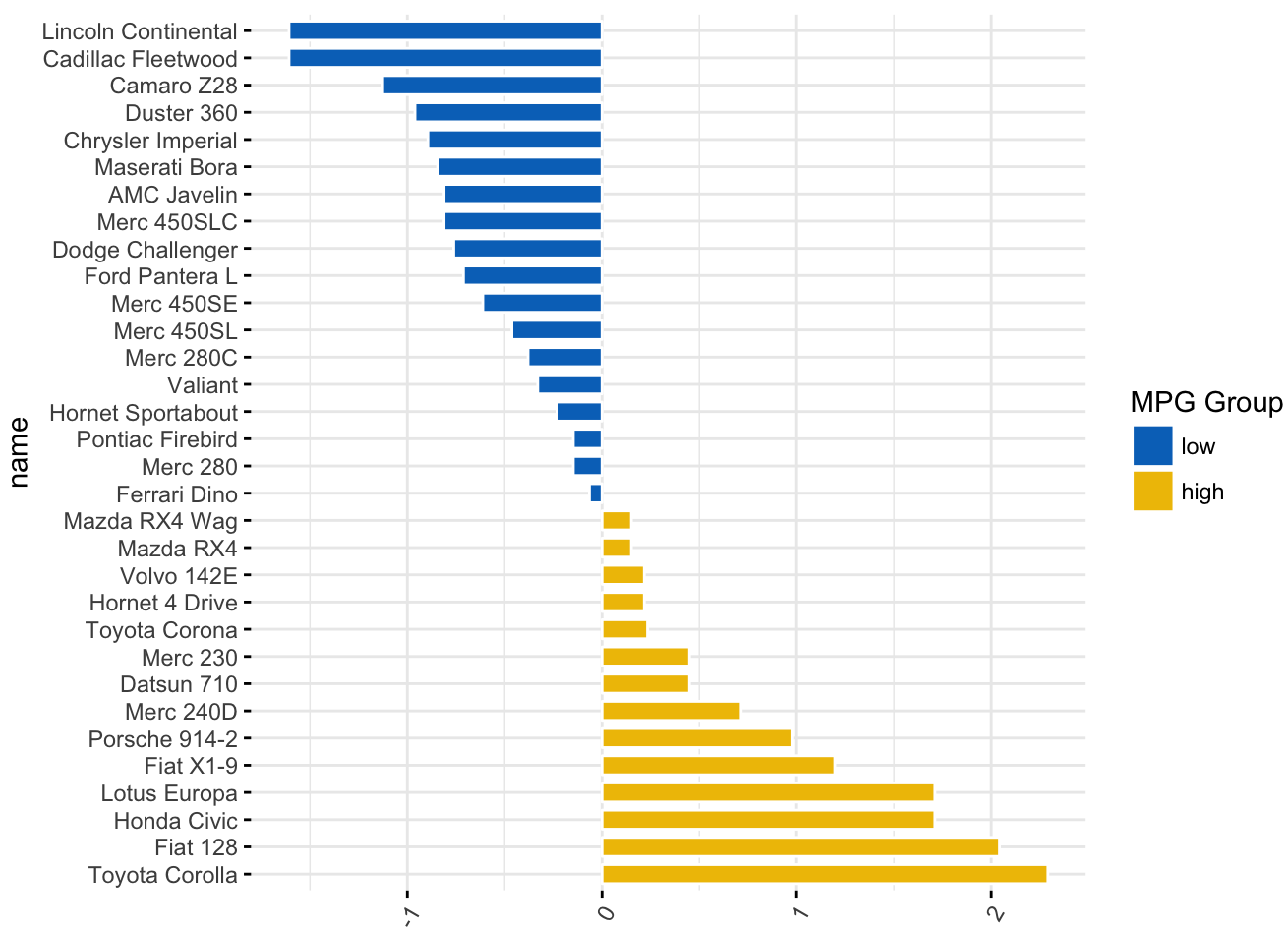
```
##              name      wt  mpg mpg_grp cyl
## Mazda RX4         Mazda RX4 2.620 21.0   high   6
## Mazda RX4 Wag     Mazda RX4 Wag 2.875 21.0   high   6
## Datsun 710         Datsun 710 2.320 22.8   high   4
## Hornet 4 Drive     Hornet 4 Drive 3.215 21.4   high   6
## Hornet Sportabout  Hornet Sportabout 3.440 18.7   low    8
## Valiant           Valiant 3.460 18.1   low    6
```

```
ggbarplot(df3, x='name', y='mpg_z', fill='mpg_grp', color='white',
           palette='jco', sort.val='asc', sort.by.groups=F, x.text.angle=60,
           ylab='MPG z-score', xlab=F, legend.title='MPG Group')
```



坐标轴变换

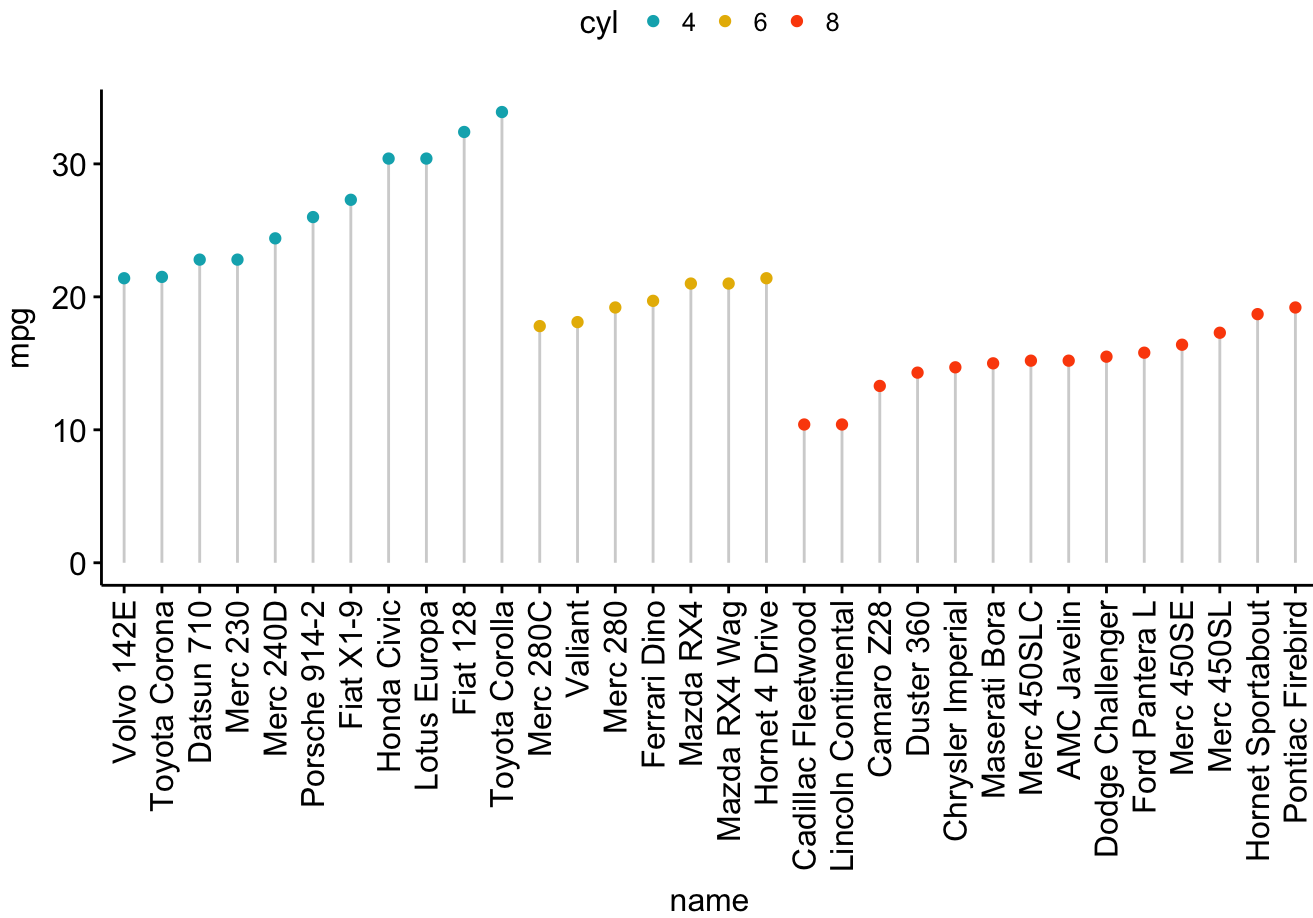
```
ggbarplot(df3, x='name', y='mpg_z', fill='mpg_grp', color='white',
           palette='jco', sort.val='desc', sort.by.groups=F,
           x.text.angle=60, ylab='MPG z-score', xlab=F,
           legend.title='MPG Group', rotate=T, ggtheme=theme_minimal())
```



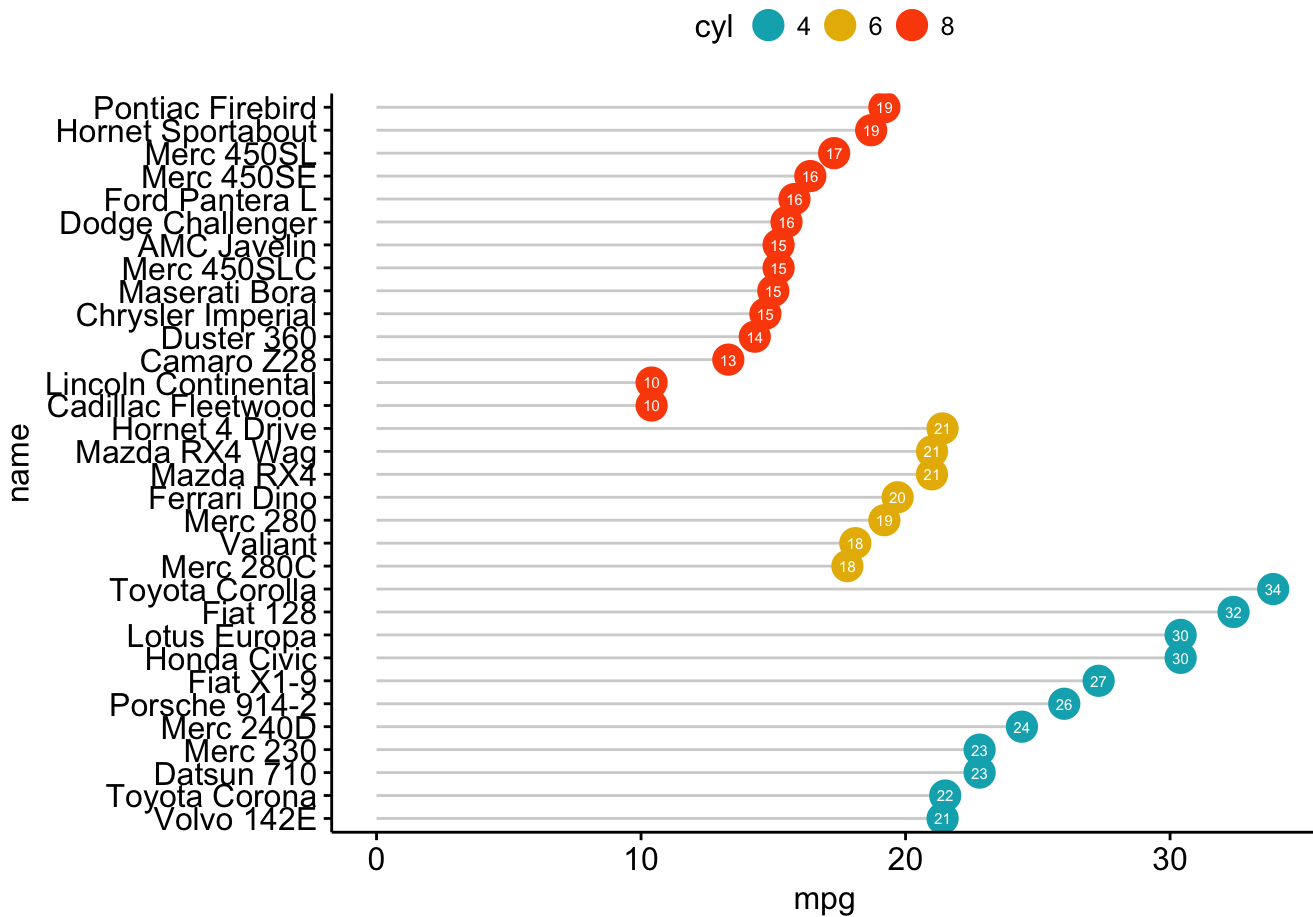
```
# Dot Chart
```

```
# Lollipop Chart
```

```
ggdotchart(df3, x='name', y='mpg', color='cyl', add='segments', sorting='ascending',
  palette=c('#00AFBB', '#E7B800', '#FC4E07'),
  ggtheme=theme_pubr())
```

```
ggdotchart(df3, x='name', y='mpg', color='cyl', add='segments', sorting='descending'
,
  rotate=T, dot.size=5, group='cyl',
  palette=c('#00AFBB', '#E7B800', '#FC4E07'),
  label = round(df3$mpg), font.label=list(color='white', size=6, vjust=0.5)
,
  ggtheme=theme_pubr())
```

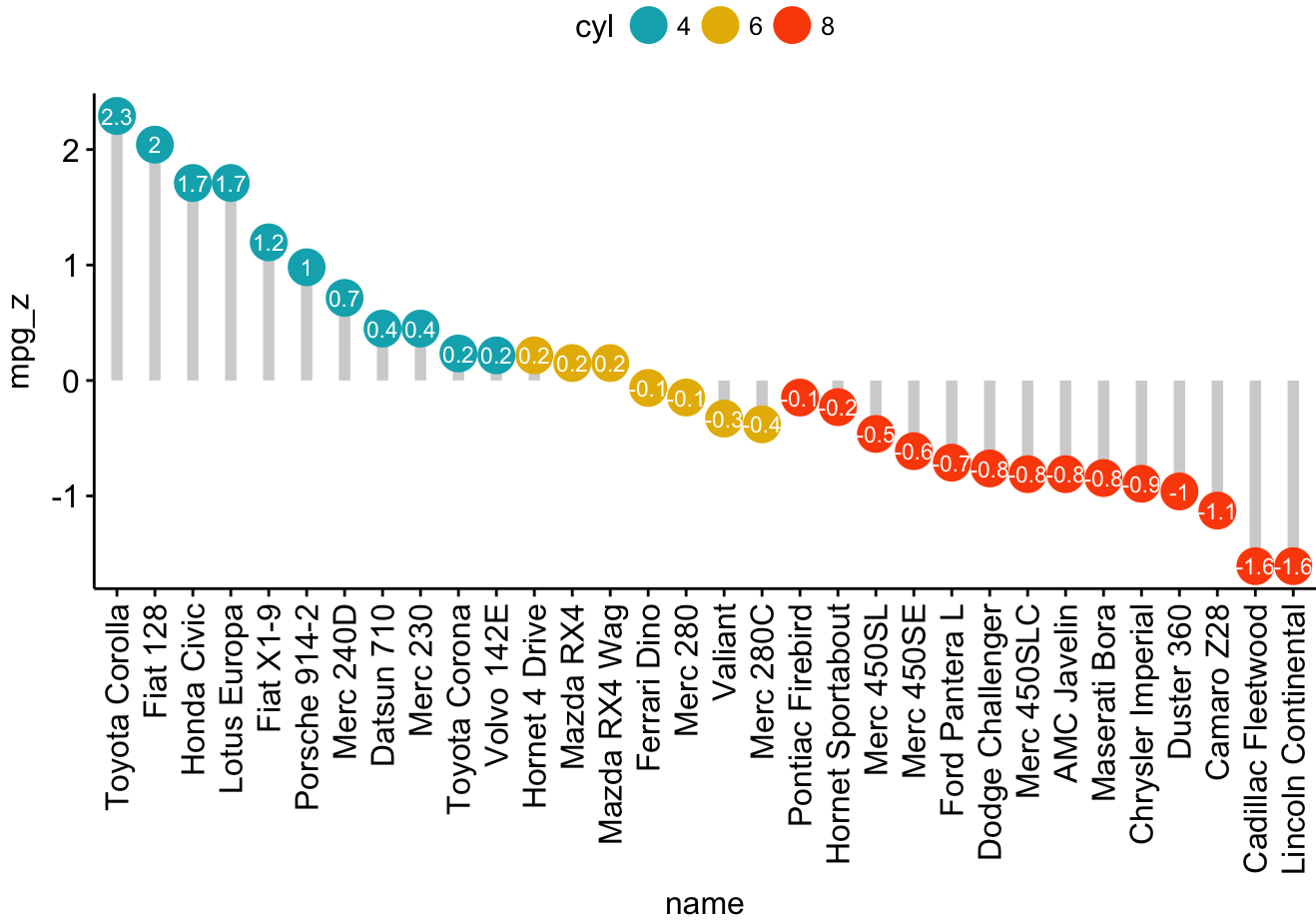


偏差图

```
ggdotchart(df3, x='name', y='mpg_z', color='cyl',
            palette=c('#00AFBB', '#E7B800', '#FC4E07'),
            sorting="descending", add='segment', add.params=list(color='lightgray', size=2),
            group='cyl', dot.size=6, label=round(df3$mpg_z, 1),
            font.label=list(color='white', size=9, vjust=0.5),
            ggtheme=theme_pubr()) + geom_line(yintercept=0, linetype=2, color='lightgray')
```

Warning: Ignoring unknown parameters: yintercept

geom_path: Each group consists of only one observation. Do you need to adjust
the group aesthetic?



```
# Cleveland
ggdotchart(df3, x='name', y='mpg', color='cyl',
            palette=c('#00AFBB', '#E7B800', '#FC4E07'),
            sorting='descending', rotate=T, dot.size=2, y.text.col=T,
            ggtheme=theme_pubr()) + theme_cleveland()
```

