

# JTBC 2017-02-16

## Problem

JTBC 정치부회의에서는 다음과 같은 도표의 민주당 지지자 중 후보지지도 여론조사 결과를 보도.



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막대의 높이에 의구심을 표한 시청자들의 항의에 직면함.

제대로 된 막대그래프를 그리면서 R Base plot과 ggplot에 대하여 학습.

## Data Setup

```
candidates <- c("문재인", "안희정", "이재명", "안철수", "황교안")
week2 <- c(57, 20, 11, 2, 1)
week3 <- c(61, 24, 7, 1, 1)
rates_df <- data.frame(candidates, week2, week3,
                        stringsAsFactors = FALSE)
rates_df
```

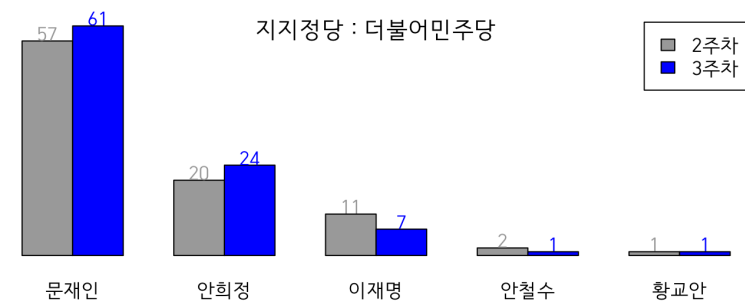
##	candidates	week2	week3
## 1	문재인	57	61
## 2	안희정	20	24
## 3	이재명	11	7
## 4	안철수	2	1
## 5	황교안	1	1

## Barplot(R Base)

```
par(family = "HCR Dotum LVT")
bl <- barplot(t(as.matrix(rates_df[, 2:3])),
              axes = FALSE,
              ylim = c(0, 65),
              beside = TRUE, names.arg = rates_df[, 1],
              legend.text = c("2주차", "3주차"),
              col = c("darkgrey", "blue"))

# axis(side = 2,
#       at = as.vector(as.matrix(rates_df[, 2:3])),
#       labels = as.vector(as.matrix(rates_df[, 2:3])), las = 1)
text(x = bl[1, ],
     y = week2 + 2,
     labels = week2,
     col = "darkgrey")
text(x = bl[2, ],
     y = week3 + 2,
     labels = week3,
     col = "blue")
main_title <- "대선후보 지지도(%)"
sub_title <- "JTBC 정치부회의, 한국갤럽 2017. 2월 7-9일, 14-16일"
main_text <- "지지정당 : 더불어민주당"
title(main = main_title,
      sub = sub_title,
      cex.main = 2)
text(x = 8, y = 60,
     main_text,
     cex = 1.2)
```

## 대선후보 지지도(%)



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# ggplot

## Data for ggplot()

```
library(reshape2)
(rates_df$candidates_f <- factor(candidates,
                                levels = candidates))
```

```
## [1] 문재인 안희정 이재명 안철수 황교안
## Levels: 문재인 안희정 이재명 안철수 황교안
```

```
str(rates_df)
```

```
## 'data.frame': 5 obs. of 4 variables:
## $ candidates : chr "문재인" "안희정" "이재명" "안철수" ...
## $ week2 : num 57 20 11 2 1
## $ week3 : num 61 24 7 1 1
## $ candidates_f: Factor w/ 5 levels "문재인","안희정",...: 1 2 3 4 5
```

```
(rates_df_melt <- melt(rates_df[, 2:4],
                      id.vars = "candidates_f",
                      measure.vars = c("week2", "week3"),
                      variable.name = "week",
                      value.name = "rates"))
```

```
## candidates_f week rates
## 1 문재인 week2 57
## 2 안희정 week2 20
## 3 이재명 week2 11
## 4 안철수 week2 2
## 5 황교안 week2 1
## 6 문재인 week3 61
## 7 안희정 week3 24
## 8 이재명 week3 7
## 9 안철수 week3 1
## 10 황교안 week3 1
```

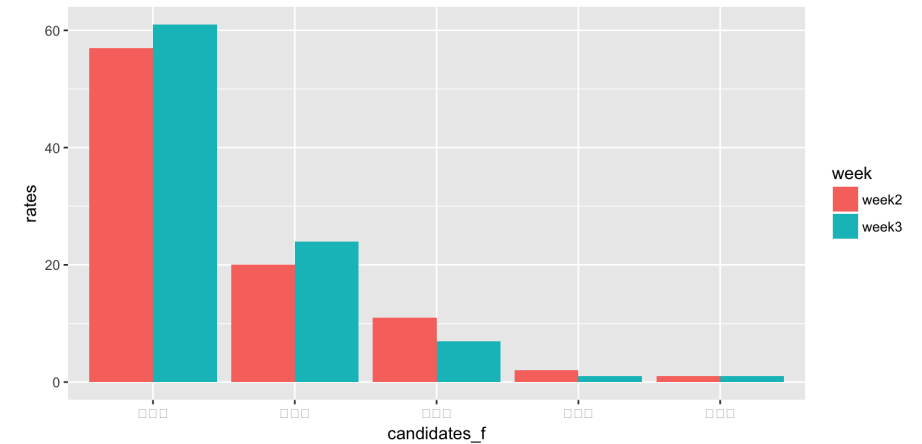
```
str(rates_df_melt)
```

```
## 'data.frame': 10 obs. of 3 variables:
## $ candidates_f: Factor w/ 5 levels "문재인","안희정",...: 1 2 3 4 5 1 2 3 4 5
## $ week : Factor w/ 2 levels "week2","week3": 1 1 1 1 1 2 2 2 2 2
## $ rates : num 57 20 11 2 1 61 24 7 1 1
```

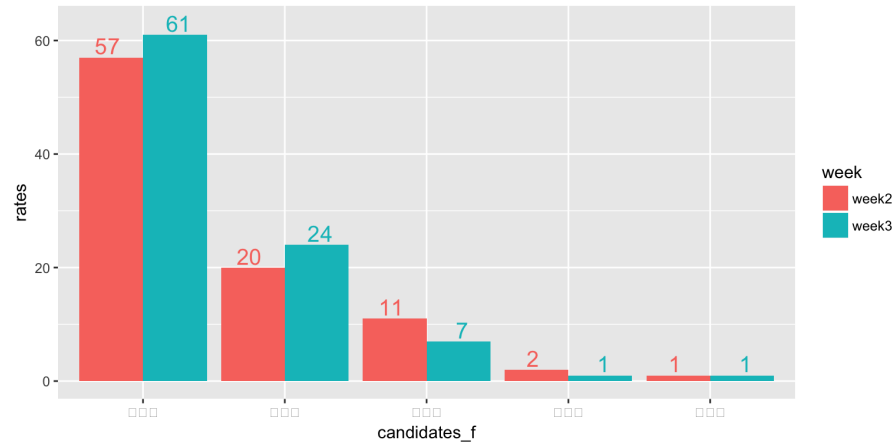
## geom\_bar()

```
library(ggplot2)
source("./theme_kr.R")
g0 <- ggplot(data = rates_df_melt,
             mapping = aes(x = candidates_f,
                           y = rates,
                           fill = week))

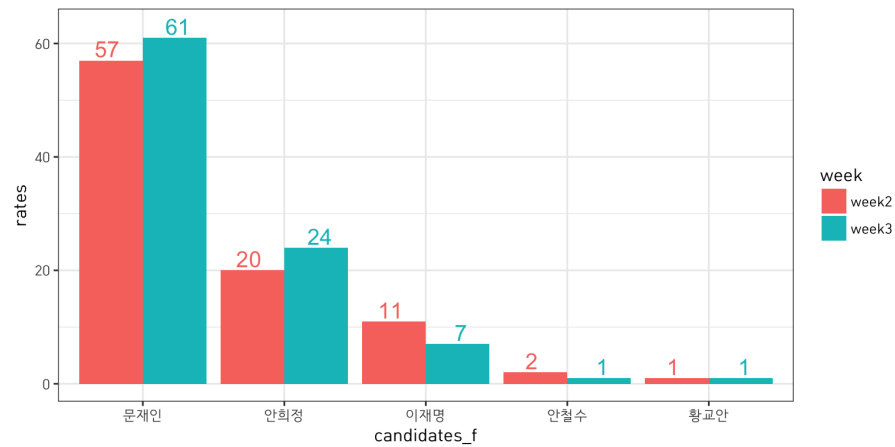
(g1 <- g0 +
  geom_bar(stat = "identity",
           position = position_dodge()))
```



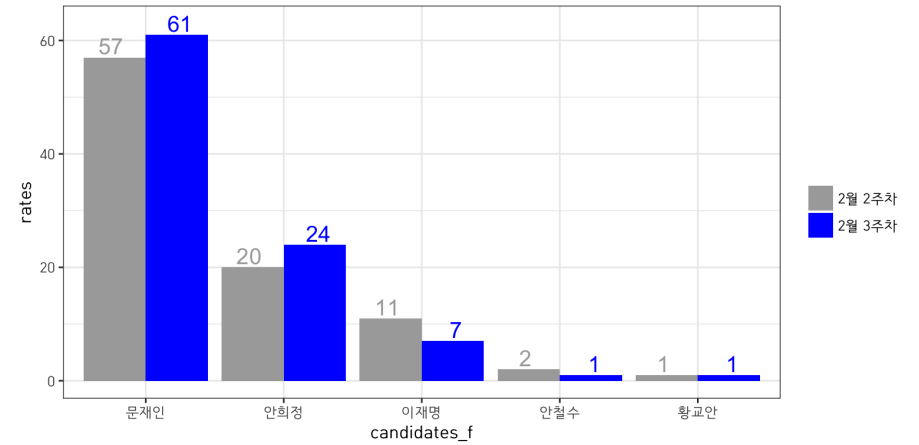
```
(g2 <- g1 +
  geom_text(mapping = aes(x = candidates_f,
    y = rates + 2,
    label = rates,
    colour = week),
    position = position_dodge(width = 1),
    size = 5))
```



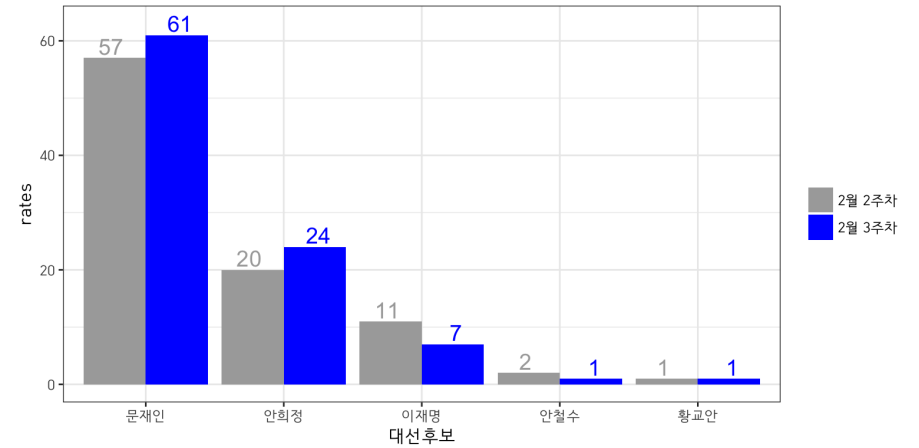
```
(g3 <- g2 +
  theme_bw() +
  theme.kr)
```



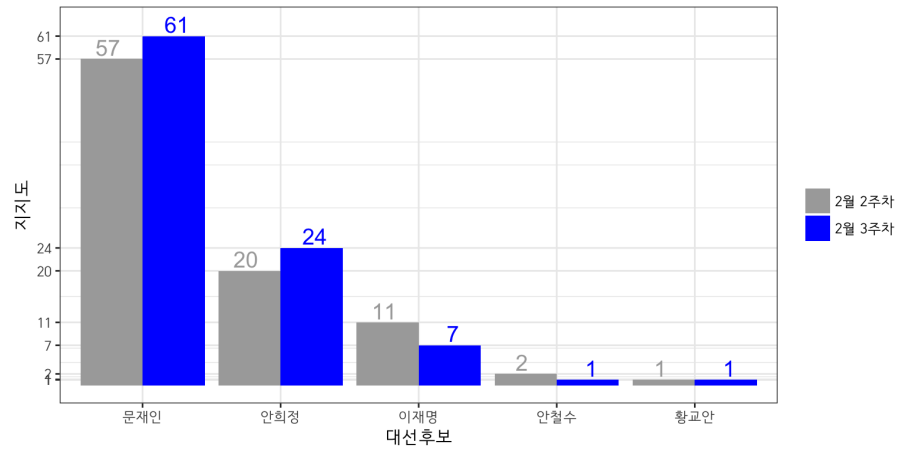
```
(g4 <- g3 +
  scale_fill_manual(name = "",
    values = c("darkgrey", "blue"),
    labels = c("2월 2주차", "2월 3주차")) +
  scale_colour_manual(name = "",
    values = c("darkgrey", "blue"),
    labels = c("2월 2주차", "2월 3주차")))
```



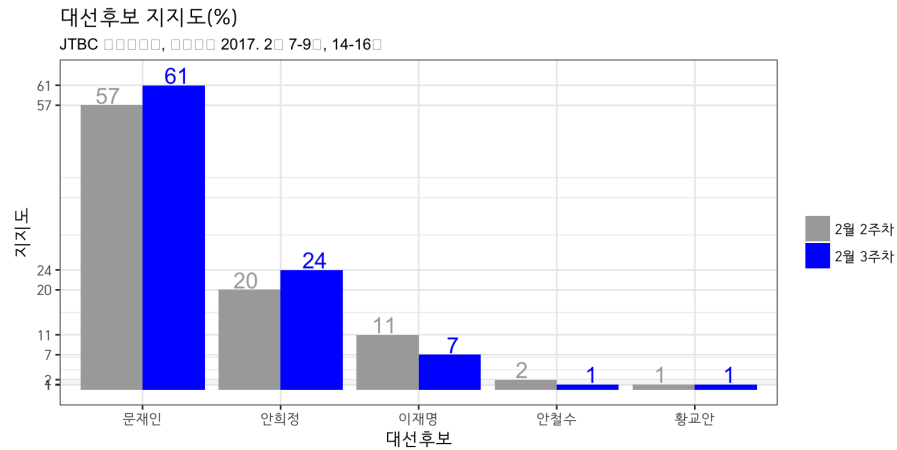
```
(g5 <- g4 +
  scale_x_discrete(name = "대선후보"))
```



```
(g6 <- g5 +
  scale_y_continuous(name = "지지도",
    breaks = as.vector(as.matrix(rates_df[, 2:3])),
    labels = as.vector(as.matrix(rates_df[, 2:3]))))
```



```
(g7 <- g6 +
  labs(title = main_title,
    subtitle = sub_title))
```



```
(g8 <- g7 +
  theme(plot.title = element_text(hjust = 0.5),
    plot.subtitle = element_text(family = "HCR Dotum LVT"),
    legend.position = c(0.9, 0.7)))
```

